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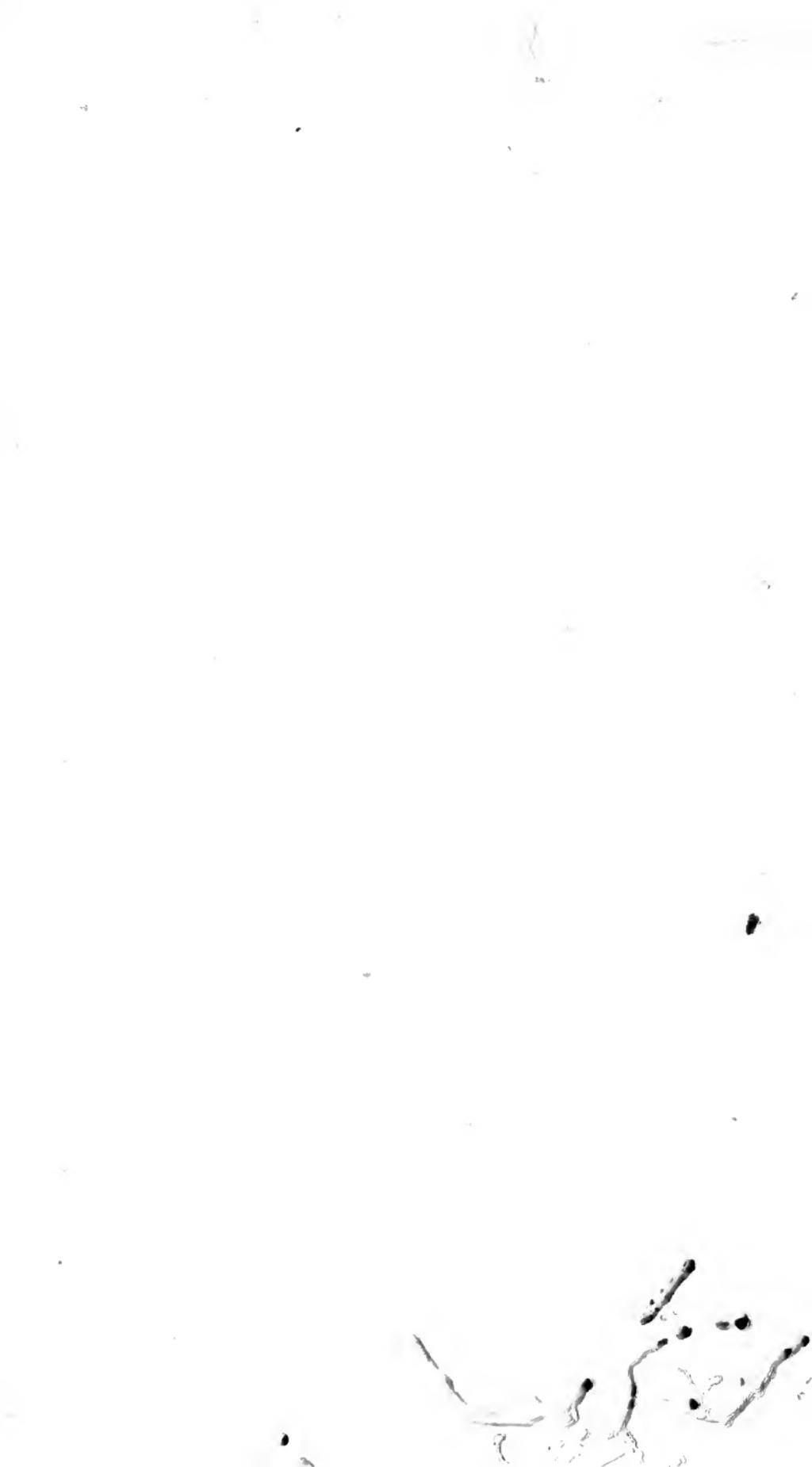
Sir L Dundas Barr
of
KERSE.

P R E S S

S T E E L E

N^o







O R, T H E
Nobleman, Gentleman, and Gardener's

CONTAINING
DIRECTIONS for the general Distribution of a Country Seat, into Rural and Extensive Gardens, Parks, Paddocks, &c.

And a General

ILLUSTRATED

With great Variety of COPPER-PLATES,
done by the best Hands, from the AUTHOR's
Drawings.

VOL. III.

By Gardener,
several Years Servant to Mr. *London* and Mr. *Wise*.

Printed for without
Temple-Bar, and both in
Westminster-Hall, without Temple-
Bar, and in Fleet-street, 1718.



To the Right Honourable the

Earl of *PEMBROKE*,

This TREATISE of

Rural Gardening

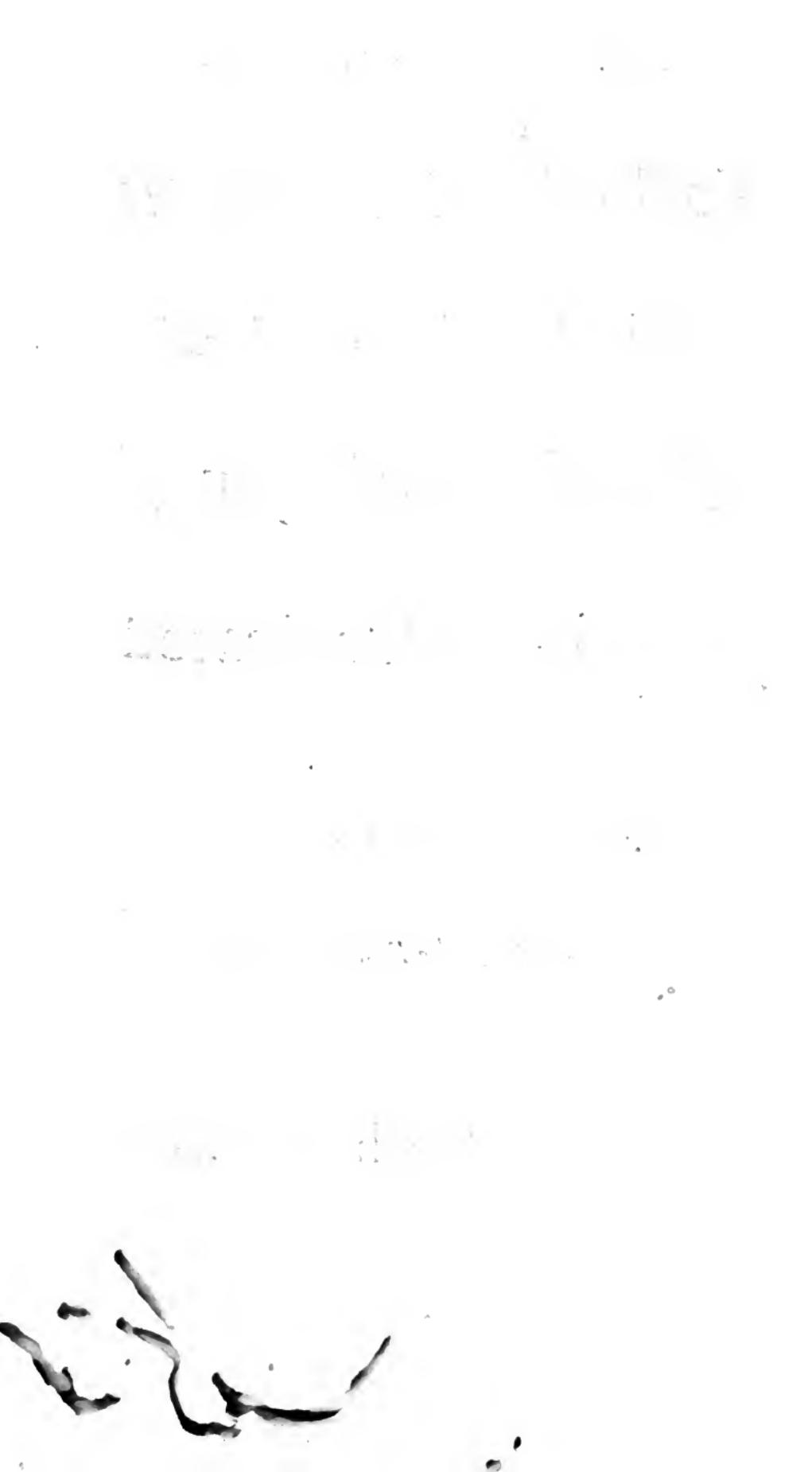
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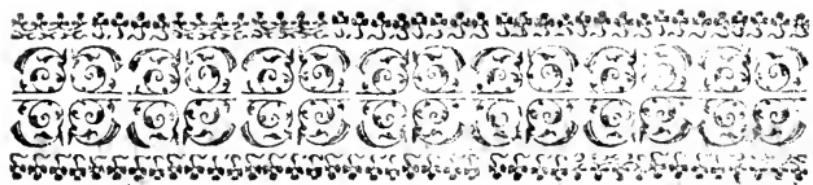
By his LORDSHIP's

Most obedient Servant,

Stephen Switzer.

A 2





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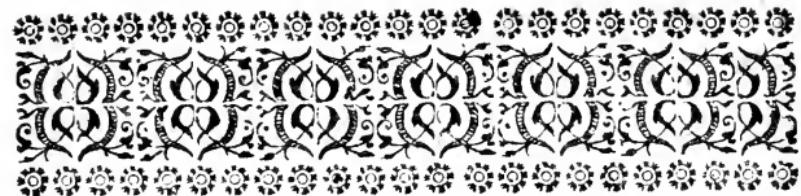
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The INTRODUCTION to Rural and Extensive Gardening, &c.

THAT the chief Satisfaction and Pleasure of the Mind (next to it's own Serenity, Innocence and Tranquillity, and the Noblest Instinct of human Nature, it's Sacred, Inexpressible and Divine Effervescence) arises from, and it's Flame is mainta'n'd by exteriour Objects, every Person that lives a thoughtful and virtuous Life, will I doubt not readily own.

FOR tho' there are many Benefits convey'd to the Senses by Sound, and tho' Taste affords some gross Entertainment to the Body: Yet as an ingenious Author express'd it, our Sight is the most perfect, and most delightful of all our Senses; and certain it is, that there is that unutterable Pleasure, that affects the Mind by Opticks, and other intuitive Knowledge, that is not to be found in any other common Matter.

THUS when we view the Heavens in a serene and calm Day, and in par-

The Introduction to Rural
ticular, that bright and dazzling Luminary the Sun : Or otherwise, in a fine clear Night the Starry Orb bespangled with all that innumerable Company of glittering Beauties ; and if to this be added a Knowledge of their Motions, Revolutions, &c. In what a vast and pleasing Ocean is the Mind embark'd.

IN like manner, when we take a Survey of the watry Part of the World, and of the Numberless Inhabitants of the great Deep, of their Shape and Contexture ; and how Nature has provided them with evcry Thing that is proper for their Subsistence and Safety : In that aqueous Element, there seems to be an Immensity of Speculation.

IF we penetrate into the Bowels of the Earth, (where Sight indeed does not always reach) and consider the several Kinds of Earth, Minerals and Fossiles, that are often found in the Beds and Strata's thereof, if we consider it Mathematically, as it is suppos'd to turn on it's own Axis, and those almost un-

account-

accountable Laws it subsists by, there is scarce any End of our Inquiries.

But of all the Works of the Creation, none calls for our Attention more than the Superficies of the Earth, the Work of the Third Day, the Beautifulness there is in the Prospect of it the excellent Uses and Variety therein are Studies and Speculations that excel all others.

AND amidst all; that of a Country Seat distributed with Judgment, may well be accounted one of the greatest; in this every Person makes to himself a Kind of a new Creation, and when a Seat or *Villa*, is decently and frugally distributed, what a Harmony does it create in a virtuous Mind, besides, the many grosser Uses of it to the Body.

ALL other Employs have some things that are Pleasant in them, but in this there is a happy Composition of every thing, that can possibly make Man's Life and Labour agreeable, and give an Innocent Gratification to all his Senses: The general

View of his well dispos'd Seat gratifies the Sight, the numberless feather'd Choiristers that perching amongst this Woods, warble out their natural and melodious Strains the Hearing, the refreshing Breezes of Air the Feeling, and the Palate is gratify'd by an almost an innumerable Number of pleasant and nectaral Juices, and Fruits, and the Smell of Flowers, cheers the Organs of the Head in a wonderful manner. How sweetly glides the Blood thro' its several Offices, how exhilarated the Mind, and with what Flagrance and Joy (as our great Poet expresses it) does the Heart and the whole Frame of Nature overflow. How sweet are these Amusements to the Innocent and Virtuous, and how insensibly are they carried to adore that divine Power that has made them thus susceptible of their own Happiness.

To come nearer to our present purpose the Business of Gardening, Planting, and Husbandry, affords both the Mind and Body all that is good,

and Extensive Gardening, &c. v
good or agreeable to our Natures,
and gives us the Opportunity of being
more beneficial to Posterity, than any
other Study or Employ whatsoever.

But the first (I mean Gardening)
some unwary People argue against,
for it's Expence and the Alienation
of so much Land from other
uses, with other things of this Nature:
And indeed as it has been all along
manag'd, it is too just a Charge and
Blemish to this Business, the extra-
vagant Methods of making and keeping
Gardens is so chargeable and bur-
thensome, that it often makes very
great Spirits sink under it, and tho'
they have begun with some Warmth,
have at last sunk from Time to Time,
till they have laid it quite aside, and
resigned all Thoughts of pursuing it
any farther, and this most evidently
arises from it's Expence.

I THEREFORE humbly suppose,
it can't but be a very useful Subject
to endeavour to reduce that Expence,
into as narrow a Compass as possible,

and so to mix the profitable Part of a Country Seat with the pleasurable, that one may pay the Expence of the other.

To accomplish which nothing (in my slender Opinion (can conduce more than this rural and extensive Way of Gardening I am here proposing, where a whole Estate will appear as one great Garden, and the *Utile* harmoniously wove with the *Dulci* ; and I believe, I am not singular in my Opinion, if I affirm, that an even decent Walk carry'd thro' a Corn Field or Pasture, thro' little natural Thickets and Hedge Rows, is as pleasing, as the most finish'd Partarre that some Moderns have been so fond of.

I AM not by this for excluding every thing of that kind, but that an elaborate finish'd little Garden should not determine our rural Pursuits, is what I suppose, very many will agree with me in.

THIS is in Truth, what some ingenuous Gentlemen are now attempting at, unto whom I humbly hope

the

the following Designs will be of Use, and to make it the more useful, I shall endeavour here to mark out some general, I may add unnecessary Expences Gentlemen are very often at in Gardening: The first is walling, which is in it self a great Expence; and in this one Article I have often seen, that there is as much Money expended, as would have embellish'd a hundred Acres of Ground in this rural Way I am speaking.

THE first Thing Gentlemen commonly do after their Houses are built, is to set out their Garden Walls: In this there is some Surveyor or Brick-layer that is very ready, it being some of the best picking they can have; and the Gardener himself is doubtless as fond of them as any thing, and thinks his Garden can't be fine, except it has a Brick Wall round it; and by this there is perhaps 5, 6, 7 or 800*l.* and sometimes 1000*l.* expended, and the beautiful Prospect of a Country lost in the Bargain.

IT will be readily argued, that the Walls are proper for Fruit, but the Method that is generally esteem'd the best in this Case, is to make a Kitchen and Fruit Garden by it self; and even there likewise, some are often at a too great and too unnecessary Expence; there being many Sorts of Fruit that we plant against our best Walls, that will do as well against a Reed Hedge and a Lattice of Wood before it; this I shall fully handle in another Subject, and shall observe no more at present, than that in this Respect, Gentlemen should only Plant their latter Fruits against Walls, and perhaps one Tree of a sort of early to accelerate their Maturation, whilst others should be planted against the Hedges I have been speaking of; which Hedges will last as long as most Fruit Trees, especially Peaches and Cherries, and be ripe within 8 or 10 Days, as soon as the best Wall will make them.

ANOTHER Expence is wooden Espaliers, against which are commonly planted

planted Dutch Elms, Lyme, &c. This I have observ'd to a very great Expence, and such a one as may in many Places be avoided.

A **THIRD** Expence is that elaborate Exactness, and the Number of Greens, Plants, and Exotics, that Gardens are generally fill'd with; this I am well aware will sound very ungrateful in the Ears of some Mercenaries, and from them I expect not Thanks, but rather Reproaches, some little Parts near the House ought to have something of this Kind; but as the Owner goes farther off, it will not be unpleasant for him to fall into natural Coppices, Paddocks, Corn Fields, and a little Gravel or Sand Walk looks there as pleasant as any thing.

T H E Wood he there has instead of those Suffrutices or exotic Shrubs should be good Oak, and other natural Furniture of our Coppices, and instead of their being planted, stak'd, water'd, and innumerable other Expences, let them be sow'd. I know many there

are

are that have not Patience to stay for the Growth of such Wood, but I dare pronounce, that such, whoever they are, do not undertake Gardening and Planting upon solid and serious Principles, but that 'tis the sudden Start of an impetuous Humour that will vanish as soon: Besides to me, and I believe there are many of the same Opinion, a young Wood springing up 1, 2, 3, or 4 Foot high, is the pleasantest View in Nature, much more pleasant than what it is at full Growth, and if there be some Standards in it from a present Shade, answers every Purpose, that a wise and frugal Gentleman would propose to himself in this Matter.

IF these Hedge Rowes and Coppices were likewise mix'd with Fruits, still the Profit of this Work would be more and more mix'd, and incorporated together.

HOW the Interiour Parts of these Gardens are to be secur'd, will appear in the following Schemes.

T H E R E

THERE is yet another needless Expence, which is often us'd in Gardening, and that is the levelling and filling up of Holes and Hollows, which if well made Use of, are some of the greatest Beauties in Nature, to confirm which, let any Person whatsoever that has seen it, speak his Thoughts of that beautiful Hollow in the New Garden at *Kensington*, instead of filling up such Places, what Earth ever there is to spare by the digging of Cellars and the like, ought to be carry'd to some convenient Place, and a Mount made, and planted round promiscuously with Greens, Trees, &c. This will afford a good Prospect from several Parts of a Garden, and by going up to the Top an agreeable view about an Estate, and this is more particularly necessary where the Situation of a House is on a large Flat.

MANY, or indeed all these Evils I have been speaking of, arise chiefly from stiff Mathematical, fine Drafts, and more than these, the Fall of many a noble

a noble Oak, which would add a greater Beauty to a Seat, than any thing that is commonly put in its Room.

THE Method commonly taken in this Affair, is, Gentlemen have their Ground survey'd, and perhaps the Levels taken, and then 'tis brought to *London*, where there are a great many Drafts-men, and Paper Engineers, so a regular fine Scheme is made, and be it at never so much Disadvantage, to the Nature of the Scituation, or lead the Owner into never so many Inconveniences, and needless Expences, it must be executed; or also perhaps the Gentleman's own Gardener undertakes it: The Capacities of most of them are too well known to the knowing Part of the World, to trust altogether to them, and they are more particularly pernicious, where their Masters are entirely guided by them.

Male agitur, cum Domino quum Villicus docet, is a Phrase I think of *Cellumella*'s, and very applicable in this Case.

ON

ON the contrary, the Designer ought to see, and duly study and consider the Nature of his Scituation, and how best to improve it, how to save Expence, and how to mix Profit and Pleasure together.

FOR, not only this but an agreeable and easy Correspondence of one Part of an Estate with another is often wanted, in some Places easily to be nam'd ; perhaps a Kitchen Garden is plac'd in some obscure Corner, in others Fish Ponds, both fine in themselves ; but if it be a dirty clayey Ground, there is no clear Correspondence, but the Owner is oblig'd to get to these Parts at a very hard Rate : And this is the Case in some great Designs, where those exteriour Works do not look as if in Reality did belong to the general Design ; and in the Winter, 'tis as hard a matter to get to them, so that a thorough clean Correspondence of all the parts of a *Villa* or Estate one with another, is more eligible, than the most elaborate and magnificent Garden in the World.

THE N.

THIS then is a general View of the Errors and Misapplications of Money in a Country Seat, and such they are, that by that Time, a Gentleman has made a Garden of Ten or Twenty Acres, he is very often Sick of it, when by a little good Management, and a little Patience in the bargain, he might have made his whole adjoining Estate of 1, 2, 3, nay sometimes 4, 5, or 600 Acres, all appear as if it was a Garden, and for the same Expence, and I will be bold to affirm, that 10*l.* will go as far in this as 50*l.* will in the Methods commonly taken.

THIS Natural and Rural way of Gardening will appear of more Use, when we consider the Natural Frame and Temper of Mankind ; for as the Imagination is continually taken up, and pleas'd with new Objects, and roves through the vast Fields of Nature uncontrol'd, nothing will fully satisfy it, but Immensity, and we often see it verify'd, even in some very large Gardens ; that the Owner after they are made,

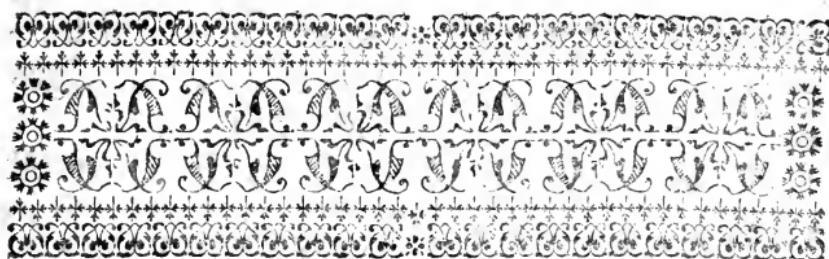
made, cares as little for them, and would rather walk in his Corn Fields, something is therefore still wanting to compleat this happiness of a Country Seat, which may very easily be answer'd, to be a decent Disposition and Distribution of all the Estate and Grounds that lye contiguous to the Mansion House, even if the Scope of Ground is so much for 3 or 4 Miles round.

IT may be said, that most Gentlemen have that already, to which I answer in the Negative, that tho' they have in many Places, good Woods, fine Pasture, Land, &c. Yet there is no easy Correspondence and Communication of one Part with the other, there seems to be an absolute Necessity; in Order to the Completion of this, that little Gravel or Sand Walks be extended quite thro' this Estate, for as the Pleasure of walking and viewing the Fields, &c. is early in the Morning, or late in the Evening, the Dews are commonly so great, that 'tis impossible to walk therein; on the contrary, were

there

there little Sand Walks, about 6 or 8 Foot wide ; how clean and decently might the Owner, his Friend and Family walk, and view the Produce of Nature, the Blessings of the great God of Heaven and Earth.

IT would be Tautology to enforce any farther the Love of this Employ in general, or of Rural Gardening in particular ; the very Name and Nature of them are desirable, and the Owner will soon taste these Pleasures, that arise to the Recreation of the Body and Mind, therefore 'twas in their *Villa's*, that the Antient *Greeks* and *Romans* pass'd away the happiest Part of their Times. How does *Horace* exult in his *Sabine Villa!* and with what wonderful Energy did *Tully* there compose his Orations, and by the way we may observe, that their Habitations was surrounded, rather with the general View and Prospect of their extensive *Villa's* than contracted Gardens.



CHAP. I.

SECTION I.

*An ESSAY on Design in general,
and the necessary Qualifications
of a good DESIGNER.*



LET us now examine the general Idea of a good Design, and how a Country Seat may be best distributed; so that Profit and Pleasure may be well mix'd together, that those Methods that have made Gardening and Planting burthensome and expensive, may in some measure be remov'd, and that the Designs themselves may be more rural, natural, more easy, and less expen-

C

expen-

2 *An Essay on Design, and the*
expensive, both in the making, and keeping,
and in Reality more intermixt both in Res-
pect to Profit and Pleasure, than any Designs
or Methods that have been yet taken.

For to speak the Truth of this matter, most
of those that have pretended to give Designs
in Gardening, have confin'd their Thoughts
too narrowly into a sort of fine Sett Garden-
ing, which can't be denied to be curious in its
kind: But it is withal so very Expensive in
the making (and which is of almost an eternal
Duration the keeping) that very few Gen-
tlemen can, or at least care to alienate so much
Land, and so much Yearly Revenues, to-
wards the Maintenance of those prodigious
Gardens, which are made in some Parts
of *England*. Whilst other Gentlemen of very
good Genius's, and Dispositions seem (and
that with a great deal of Reason) to esteem
them as too stiff and formal, and (tho' very
great in their way) not capable of giving so
great Satisfaction to the Eye of the Beholder,
as the more beautiful, tho' less elaborate
Works of Nature; justly complaining that
our *English* Gardeners instead of imitating Na-
ture, love to deviate from it as much as pos-
sible, and esteem nothing worth minding that
is not set off with the utmost Art imaginable.
And, that if their Plants are not Pyramids or
Conical, they are by no means valuable:
When in truth the loose Tresses of a Tree or
Plant, that is easily fann'd by **every** gentle
Breeze

Breeze of Air, and the natural tho' unpolisht dress of a beautiful Field, Lawn, or Meadow; (a little trimm'd, and the exorbitant Luxury of their Branches retrencht, cut off and redress'd; and when their even clean Walks of Gravel, Sand, or any other material For-Walks spread over) are much more entertaining than the utmost exactitude of the most finisht Partrre, and the curioufest Interlacings of Box Work and Embroidery.

Thus the ingenuous Author of the Spectator, in Order to illustrate and paint the Beauty of Nature beyond those of Art, argues, that nothing but a Kind of Immensity can give a real Satisfaction to the Imagination. *Our Imagination* (says he, Spectator IV. Vol. VI.) *loves to be fill'd with an Object, or to grasp at any thing that is too big for its Capacity: We are flung into a pleasing Astonishment at such unbounded Views, and feel a delightful Stillness and Amazement in the Soul in the Apprehension of them.* The Mind of Man naturally hates every thing that looks like Restraint upon it, and is apt to fancy itself under a sort of Confinement, when the Sight is pent up in a narrow Compass, and shortned on every side by the Neighbour-hood of Mountains; on the contrary a spacious Horizon is an Image of Liberty, where the Eye has Room to expatiate at large on the Immensity of its Views, and to loose itself amidst the variety of Objects that offer themselves to its Observation; such wide and undetermin'd Pro-

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pects are pleasing to the Fancy, as the Speculations
of Eternity or Infinitude are to the Under-
standing. But if there be a Beauty or Uncom-
monness joyn'd with this Grandure, as in a troubled
Ocean, a Heaven adorn'd with Stars and Me-
teors, or a spacious Landskip cut out into Ri-
vers, Woods, Rocks, and Meadows; the Plea-
sure still grows upon us, as it arises more than
from a single Principle.

Every thing that is new or uncommon raises
a Pleasure in the Imagination, because it fills the
Soul with a Curiosity, and gives it an Idea of
which it was not before possest, we are indeed so
often conversant with one Sett of Objects, and
tired out with so many repeated Shows of the
same things, that whatsoever is New or Uncom-
mon contributes a little to vary human Life,
and to divert our Minds for a while, with the
strangeness of its Appearance: It serves us for a
kind of Refreshment, and takes off from the Sa-
tiety we are apt to complain of in our usual and
common Entertainments: It is this that bestows
charms on a Monster, and makes even the imper-
fections of human Nature please us. It is this
that recommends Variety, where the Mind is
every Instant call'd off to something New, and the
Attention not suffer'd to dwell too long, and wast
itself on any particular Object. It is likewise this
that improves what is Great, Beautiful, and
makes it afford the Mind a double Entertain-
ment, Groves, Fields, and Meadows, are at
any season of the Year pleasant to look upon, but

never

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never so much as in the opening of the Spring, when they are all new and fresh, with their first Gloss upon them, and not too much accustomed and familiar to the Eye. For this Reason there is nothing that more enlivens a Prospect than Rivers, Jet d'eaux, or falls of Water, where the Scene is perpetually Shifting, and entertaining the Sight every Moment with something that is new; we are quickly tired with Hills and Valleys, where every thing continues fixt and settled in the same Place and Posture, but our thoughts a little agitated and reliev'd at the Sight of such Objects as are ever in Motion, and sliding away from beneath the Eye of the Beholder.

I might instance from him in many Places of those incomparable Papers, and bring Confirmations of what I am advancing in this Book, the Sum of all is when apply'd to our present Purpose, that the Beauty of the largest and finest of Regular Gardens is easily discover'd, whereas were they laid out in a more Natural and Rural Manner, the Eye would always be discovering new Objects, and be lost in that inexpressible somewhat to be found in the Beauty of Nature, in a Rude Copice or amidst the Irregular turnings of a wild Corn Field, these would yield more Satisfaction to the Eye of the Beholder than the regularest Scheme, of the most Skillful Planometrian.

To come nearer our purpose, if a litt'e Regularity is allow'd near the main Building,

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and as soon as the Designer has stroke out by Art, some of the roughest and boldest of his Strokes, he ought to pursue Nature afterwards, and by as many Twinings and Windings as his *Villa* will allow, will endeavour to diversify his Views, always striving that they may be so intermixt, as not to be all discover'd at once; but that there should be as much as possible, something appearing new and diverting, while the whole should correspond together by the mazie Error of its natural Avenues and Meanders.

He should make the best of all Hills, and Dales, of all Corn Fields, high Hills, Banks and Tufts of Trees, and where-ever they strike the Eye, 'tis there he should create more: If to this we add that he ought upon all Occasions to forecast the saving Expence, it will be very acceptable to a wise and frugal Planter.

And to the End, that he may know the better, how to make the best use of natural Advantage, he ought to make himself Master of all Rural Scenes: And the Writings of the Poets on this Subject, will give him considerable Hints, for in Design the *Designer* as well as the Poet should take as much Pains in forming his *Imagination*, as a *Philosopher* in cultivating his *Understanding*; he must gain a due Relish of the Works of Nature, and be throughly conversant in the various Scenes of a Country Seat. If he is not well versed, yet he ought

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ought to have a general Idea of every thing, that is Noble and Stately in the Productions of Art, whether it appear in painting or Statuary, in the great Works of Architecture, which are in their present Glory, or in the Ruins of those which flourisht in former Age. For as the aforemention'd ingenuous Author argues in a parallel Case, such advantages as these lies open a Man's Thoughts, and enlarges his Imagination, and as it has an Influence on a Poet's writing, so it will have a great one on his Designs; and to pursue our parallel among those of the learned Languages, who excel in this Talent the most perfect in their several Kinds, are perhaps Homer, Virgil, and Ovid. From these three and from some others of our own Time, and Country; the ingenuous Designer as well as Poet, may collect noble Thoughts, and Ideas of things, from the first what is Great, from the second what is Beautiful, and from the last what is Strange. 'Tis true as to Gardening, the thoughts of Homer are not so magnificent as they are in other extensive Parts of Nature, the Gardens of Alcinous are limited to a small Extent within, and no mention made of any contiguous Villa, or other Beautiful adjunct; but if we wander through the whole we find in other Parts of his Writings, something stupendiously Great: Such are huge Forests misshapen Rocks and Precipices; these a Designer, if possible, ought always to draw into his View, and at the extent of his Design, nothing will

be more entertaining, after the Fancy is as it were satiated with the interiour Meanders and other Rural and Natural Embellishments.

From *Virgil* (that great Master of Gardening and most other Arts) we may collect all that is Beautiful, his Rural Descriptions will furnish us with some Thoughts, for the Improvement of our Fancy, as his Directions do, for the Improvement of our Judgment.

And from the *Metamorphosis* of *Ovid*, the Designer may collect Statues and Ornaments, for the adorning his *Villa*, that carry the very Air of Enchantment with them.

Neither need we have Recourse to ancient Authors only, the Poets of our own Country, have drawn the beautiful Scenery of Nature, equal to, if not exceeding any thing, to be found in the Ancients; how sweet is that Description of *Windsor Forest*, and how Noble and Majestick that Inimitable Description of *Paradise*, by *Mr. Milton*. The Poet has indeed the Advantage of the Designer, in that he can in a few Lines, and in the most Rigid Season of the Year, raise Thousands of Trees, Fruits, and Flowers, but the Designer has this Advantage over him again, that tho' his Schemes are not so soon in Perfection, they are of a more lasting date, and continue for many Years to improve upon his Hands, and likewise by the Annual Revolutions of Nature, tho' they are one Time of the Year stript of

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of all their Attire, yet they return again in the Spring to their usual Glory.

Whereas the Beauty of a Poem is one and the same thing for ever, and if not extremely well done, lasts but a little while, if it be receiv'd into the World at all.

In plain terms, tho' we do not agree with *Vitruvius*, in all the necessary Qualifications of a Surveyor and Designer, as to Law, Physick, and the like, those being Matters he has very little Occasion to converse in ; he ought to be a tolerable good Mathematician, Historian, and Architect ; he ought to be a Person of an active, vigorous Constitution, and very ready and quick at his Business ; otherwise, he will be confounded in all large Designs, and besides spoiling them, run his Master or himself into many needless Difficulties and Expences : How much of all these, Persons that give Designs know ; and how well they are qualify'd for the Business they pretend to undertake : Dismal Experience shows in many Parts of this Kingdom, and tho' the *French* have gone before, and shew'd us the Way, we have made but an indifferent Use of it, and have by no means maintain'd the well known Character of an *English* Genius, *Inventis addere*. If we would therefore arrive at any greater Perfection, than we are in Gardening, we must cashier that Mathematical Stiffness in our Gardens, and imitate Nature more ; how that is to be done

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done, will appear in the following Chapters, which tho' they may not be as new designs scarce ever are the most perfect: It will at least excite some abler Master to take Pen and Pencil in Hand, and finish what is here thus imperfectly begun, and this is my Comfort, that I shall envy no Man that does it. I have God be prais'd, learn'd that Lesson, *to admire, and not envy every one that outgoes me*: And this will I hope go a great Way, in making me easy and happy under the Pressures of a very narrow Fortune, and amidst the Ruffles of an ill-natur'd World.



CHAP. II.

C H A P. II.

S E C T I O N II.

Of the Choice of Scituations.

THE Choice of Scituations has been so largely hinted by all that have writ concerning Gardening ; but the Method they have taken, is attended with so many insuperable Difficulties, that I shall endeavour to abbreviate and make it more useful, not to terrifie or amuse such as enter upon this delightful Employ, with those unnecessary Rules and Restrictions, into which they are consequently plung'd by such Directions ; since were all, that at present have Occasion, to build or furnish themselves with Country Habitations, to observe but the Tythe of what has been so often prescrib'd, as Essential to a Country Seat ; 'tis hard to see, how 'tis possible they should have any Seats at all.

'Tis certain, that Providence has been wonderful kind to us of these Islands, more than to any of our Neighbours ; and few, very few Scituations they are, that are not in many Degrees beyond any thing (by Nature) to be read of, or seen abroad ; what would the magnificent Gardens of the *French* and *Flemings* be, if they were not set off with the utmost Skill and Expence that they are Masters

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sters of? And perhaps 'tis not hard to name some of our Seats, and that not far from *London*, that for Nobleness of Prospect much exceed any thing, that *France* or *Italy* can boast of; while others that have not so noble an Elevation, are furnish'd plentifully with Springs, and Rills of Water, fine Cover, and the most beautiful Lawns of Turf, and Theatres, and Plots of Noble on Oaks, and other useful and umbragious Trees.

As the very great Height of Scituations, should not always allure us to fix there, so we should not be too quick in rejecting low ones; since the first, if not already furnish'd and guarded with Wood, exposes the Inhabiter to the merciless Fury of Winds, and he must have the noblest of Prospects to compensate this Evil to him; besides, 'tis to be fear'd, that with this great Height, and it's Want of Wood, there is a worse attending, and that is, a bad Soil: Whilst in a low Scituation, provided it be not fenny, there is generally a good Soil; and if there be no Wood, it will quickly grow there; the greatest Misfortune in some low Scituations is not the Want of Water, but the Slowness of it's Motion, which makes it unhealthy and uncomfortable; but if there be a pretty quick Fall (*viz.*) about an Inch in Ten Foot, so that the Rivers and Rain Waters run quick of; and if the Grass and Pasture be clear from Rushes and Sedge, (as 'tis call'd in the Fenns

Fenns of *Lincolns-shore*) But above all, if the Bottom be a Gravel, this low Scituation is a very good one; and tho' the Owner may want Prospect, he can want nothing else, that the Nature of his happy Scituation can furnish him with.

And it is to be observ'd, that our Fore-fathers chiefly fixt themselves in these humble Scituations, in Consideration, (as may be in all Probability guess'd at) of their being low, snug and warm, and for their Aptitude to produce Fish and Hortensial Food in greater Abundance than Hills: Considerations indeed of a careful effeminate Nature, and such to which the Ease, Luxury and Superstition of those Times led them, yet even now they are to be preferr'd to some Places that lie high, and as they seldom are without natural Hills adjoining to them, so 'tis no hard Matter to throw up Mounts in several Parts of an Estate, and to plant them with rough Greens, &c. in Order to remedy this Defect in Nature.

I do not by this intend to strike at the Beauty of high Scituations, wherever there is good Wood or good Soil to raise it; but this is in Answer to those that would limit Builders and Gardiners to such exact Scituations as will be perhaps impossible for them to find.

A high Scituation has indeed one Consideration to recommend it, as is like to over-ballance a Thousand Advantages in other Scituations,

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tuations, I mean its Height, and by Consequences the Nobleness of the View, and the Clearness of the Air.

Considerations of a lively Nature.

Those Places being such as will clear and relax the Passages of the Head and Breast, and such from which we view the beautiful Scenes of Nature, and like the great Philosopher from his Eminence in Philosophy, (tho' not with the same kind of Satisfaction) see the busie World acting their several Parts of their Labour and Toil below, fills the Mind with immense Idea's, and makes the World below us as our own.

An Abbreviary of Choice for a Scituation.

But since a very low Scituation is not always to be chose, and a very high one is not always in the Option of those Gentlemen that build or plant, midling Scituations are the most common, which as they differ almost as much as the Faces and Physiognomies of Mankind : I shall pass them all over, and proceed to such things, as ought above all to determine our Choice in this Affair, which is Wood, Water, and a proper Soil, after I have intimated, how unreasonable it would be to place a House and Gardens, either upon the very Summit of a Hill, or in the very Bottom

tom of a Dale, when one meets with a very easy sloping Descent from North to South; 'tis reasonable, that there the House should be placed, about three Parts in Four toward the Top of the Hill, by which means 'tis preserv'd from the violence and impetuosity of Northern Winds, and open to as chearful Embraces of the South. Yet as inconsistent as this is with common Reason, 'tis what has been, and is in many Places the common Practice; in like manner, it would be as improper so to order the Matter, that our Gardens of Pleasure should lie North, or North West, or North East; the most beautiful as well as the most healthy Position being the South, South East or thereabouts, for as the North Subjects the Owner to rigid intemperate Breezes, so does the West to the violent Concussions of Wind from the Western Ocean, as well as the unhealthy Intenseness of a declining Sun in the Afternoon, which makes it equally to be avoided; where-ever it possibly can, at least the Builder should take Care, that his Bed-chambers and Studies are not in that Position, but rather his Galleries and Rooms of a more publick Use.

The Essential Choice of a Scituation.

I have been the shorter on the more uncertain Rules for the Choice of the Scituation of a Country House, that I might have Room

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Room to enlarge on what I take to be the very Essential Parts of every Purchasers Choice in a Country Seat, in Respect to Wood, Water, and a proper Soil.



CHAP. III.

SECTION III.

Of the proper Choice of Soils, &c. for a Country Seat.

ONE of the first and Principal Choices, every Purchaser, Builder and Gardener ought to make, is that of a good Soil: The best of which are a sandy Loame, and commonly lies in middling Fields or Up-lands; or the next a fine Pasture Black Mold, and both of these when they are fresh; or as the ingenuous Mr. Lawrence terms them, untryed Molds are of excellent Use, both for Timber, Fruit, Flowers, and Herbidge: It is of great Consequence likewise, what lies next, or is at the Bottom of this upper Surface, which if one could chuse, should be One and a Half or Two Foot deep: The best of our Bottoms then I esteem to be Gravel, Chalk or Shelly Rock mix'd with Earth, which always abounds with

with a nitrous Improvement, that Trees delight in very much, for that the other Bottoms of a barren Sand or Clay are both pernicious, the one carrying off the Nourishment from the Roots too fast, and the other retaining it too long; the Bottoms of Gravel, &c. above-mention'd are so very advantageous to Fruit, that when there is a proportionable Depth of Earth, I scarce ever knew it miss, and the Fruit to be much sweeter and better, than upon loose unlimited Bottoms, this will be hinted more at in other Places; and as for chalky Bottoms, I have seen so many Instances of the Sweetness of the Fruit, that grows thereon in the West Country, contrary to my Observation in that particular in other Places, that I certainly conclude, that it is that that makes the Essential Difference in the Taste of Fruit in the South and North more than the Sun; which a florid Author has laid so much Stress on, and an ingenious Gentleman, and a curious Observer of Fruit asur'd one, that the Grapes in thole Parts are as sweet as any he ever tasted in *France*.

Of no less Account are these Bottoms to all other Herbidge and Trees, as being the sweetest as well as the dryest Pastures in the World, the one draining, and the other drying up all Superfluity of Moisture: What has been said of Loame and Pasture Earth, simply consider'd, may be apply'd to Loame

and Sandy Gravel, or Pasture Mold and Sandy Gravel mix'd together ; both of them being excellent in their Kinds, as they keep the Earths they lie in from binding, by which means the Roots of Trees meet with less Obstruction, and in which indeed they take particular Delight.

But as the Choice of good Earths is not always in the Purchasers Power, but he is sometimes forc'd to content himself with those Kinds that are in themselves indifferent : It seems requisite, we should give a general Narration of all Sorts of Earth, as well those that are barren, as those that are indifferently good ; that he may chuse the one and refuse the other, unless they can be amended at a reasonable Expence. Grounds are then simple or compound : Simple are Clays, Sands, or Gravels, compound where these Earths are mixed, or all Mixtures of Earth ; Clay, Sand or Gravel may be all good, and very fit to plant all manner of Trees in ; and likewise may be very evil and barren ; for all Earth simple or compound doth participate with the Clime wherein it lieth, as hot or cold, moist or dry, and where the Ground or Earth participates of all the Elements equally, there it is the more fruitful : All Grounds may be known by their several Characters, as by the Clime or Situation of the Continent. Some Grounds naturally produce Weeds, as Mallowes, Nettles, Docks, Hemlocks, or such like,

like, which generally grow in every good and fruitful Ground: There is another Sort of Ground that has a different Face or Character, such as beareth Dazies, Clover, Charnock, Mustard Seed, &c. This also may be very good Ground to plant in, but this is ever to be observed, where Weeds or Grafs do naturally grow strong or big, that Earth is undoubtedly most rich and fruitful; but altho' both these Grounds may be good for Corn or Grafs, yet the Planter may be deceiv'd by those outward Faces and Characters, if he search not deeper into the Bowels of the Earth; for it is well known, that many a Tree of huge Bulk is, and hath been seen to grow in a barren Earth, for Corn or Grafs; and on the contrary, there are, and has been several small Trees of little Worth growing in strong Grounds, as to the outward Appearance, and those small Trees of the Age or older than the other of greater Bulk; for that the Ground may be good for Corn and Grafs, or the planting of some small Trees, which has but 6 or 7 Inches deep of Earth, which is not for large Trees that run deeper, by Reason of some malignant Veins and Strata of Earth, that the Roots of great Trees are oft to strike thro'. Another Character of barren Earth, is, when instead of Grafs which would be green, rank, and thick, a pale, thin, small Grafs, something blewifh, also much Moss, or when the Ground is cover'd

with Heath, Furz, or Whin Bushes, Gorse or such like ; these are apparent Signs of great Barrenness, especially if the Weeds or Rubbish be small ; for, as is before mention'd, whatever it be that cumbers the Ground, the greater and ranker it is, it argues the richer Mold : Thirdly, there are other barren Grounds, which may be so adjudg'd by the Scite or Clime wherein they lie ; as when the Ground is far remote from the Sun, or very near the Borders of the Sea ; for the Storms and ill Vapours from thence poyson and starve the Earth, and are destructive to Trees and Plants ; and I have lately seen near the Sea Coasts in the new Forest young Trees, that have lean'd their Heads away there from, as sensible of the Injury they should receive from those Sea Haws, particularly young Scotch Firs, not above a Foot or two high, that were there rais'd from Seed in the Gardens of a very ingenious Gentleman, and a great Lover and Observer of these natural Enquiries ; likewise when the Ground lies mountainous and high, and very stoney and rockey ; these are Signs of Barrenness in many Places, yet the stoney Ground may have good Earth underneath, so that the Rock be not an entire Stone, but have Clefts and Passages into the Earth to plant the Trees and Seeds in ; and being once planted and thriving, will in due time open a wider Passage, and produce a Timber Tree of as great Worth as other

Ground

Ground void of Stones; and this Observation tells us also, that Trees of small Strength in comparison of the Oak, being planted in, or near a Stone Wall, the Roots have so increas'd and swell'd, making their own Way by Reason of a hard Rock some Depth under Ground, which the Roots could not enter; that they have lifted up the said Wall, and in a few Years thrown it quite down to the Ground: Fourthly, there is another Sign of the Barrenness of Ground, which is to be adjudg'd by its own Constitution; for it is well known to them, that are not ignorant of the Constitution of the World, that a Body is compos'd of all the Elements, Earth, Air, Fire and Water; and altho' all these Elements are simple Bodies of themselves, yet in all Bodies else are all the Elements, because Water evaporates into Air, and that Water is again made of Vapour, Rain teacheth us; and that Earth and Water also is rarified, may be prov'd by many Examples; and that Fire the Spirit infus'd working by Heat in all Bodies, is not to be denied by this. You see that the Constitution of a Body participates of the four Elements, which is to say, Qualities hot, cold, moist and dry; but, to come nearer our main Point, the Constitution of that Ground, where one of the four Elements doth most predominate, is an apparent Sign of Barrenness, as when the Grounds are either extreamly cold and moist, or hot and dry;

Now these cold Grounds are generally Clays, except such as are Subject to Inundations of Water or Land Springs, which are all cold, and may be unfruitful, (unless remedied by draining, the Cost of which is sometimes more than the Profit) and these cold and barren Clays, as by the outward Face and Character Judgment may be given, generally produce Broom, Gorse, Moss, and Shrub-Bushes, or such like; and the Reason of their Unfruitfulness is from their tough Nature and Bindingness in the Winter, the Pores are so closed, that the Rain or Snow falling and melting, cannot soak into the Earth farther or deeper, than the Pores of Earth are open'd by the Roots of Trees and Plants, or Corn and Grass, wherefore lying at the Roots it doth benum and chill them, and hinder their Growth, and indanger the Stock thro' its over Moistness, by this it is that Nature is render'd sluggish and unactive, or, which is plainer, by the Super-abundance of Moisture it is, that Heat, &c. can't act their Parts, and that thereby these co-efficient Powers of Nature are stop'd in their Joynt Operation. Secondly, these barren Earths will require much more Dung than better Earths, and yet not last half the Time; for by Reason of the Bindingness of the Clay, the Soil cannot incorporate with it, so that both Corn and Weeds will soon draw and spend the Substance thereof, and that which remaineth

good

good above will exhale; or if the Ground lie steep, then the Rain will wash it away. Thirdly, if the Spring or Summer be very hot or dry, the natural Toughness of the Clay doth so fetter and lock the Roots or Grain within the Mold, that it will not give them Liberty to sprout, or if it doth, yet the Cold after much Rain will presently starve the Root, by rotting those emulgent Fibres that fetch in Nourishment thereto, and makes the Stem utterly unable to bring forth profitable Fruit; next to Clay are marle and chalky Grounds, they being deriv'd of Clays and Sands, Chalk being only (as some define it) a kind of white Marle, it being; as they affirm, Marle, before it was Chalk, and both of them Earth or Clay at first, only became hardned and colour'd by course of Time, as Stones are co-agulated by Water and Fire, which we may well observe in Bricks and Earthen Pots: For here Art imitates Nature; as also that they are Subject to Calcination, as Lyne-stones, Flints, or the like are; but because Marle has its Original from Clay, I shall leave it to be adjudg'd by Appearance as the Clay Ground is; excepting, that there you will find no Broom or Gorse, or such like Weeds, for Marle is a great Enemy to such like Incumbrances.

As the Barrenness of Clayey Grounds are known by their outward Faces and Characters, so also are Sands ; and these are of as many Colours as the Clay : Those Sands that lie upon Mountainous and Rocky Places, are generally speaking barren, which may be perceiv'd by the small mossie and yellowish GrasS which they bear ; other Sands that lie lower in wet moorish Plains or Bottoms, are generally of a blackish Colour, and produce a long, four, unwholesome GrasS ; but where the Ground lieth dryer, the Earth or Sand will be very white or yellow, and produce a short, small, blewish, mosly GrasS : The greatest Part of these unfruitful Sands are much Subject to Heath, Furze, Brakes or such like.

Now a great Cause of the Unfruitfulness of these barren sandy Grounds, is by Reason of the Porosity, or HollownesS of the Earth, as was said before ; for, altho' it be well manured with Soil or Dung, yet much Rain will wash down the Dung lower into the Earth, than the Roots of the Corn or GrasS, which has been the Reason of the Way of Plow trenching in some sandy Countries : The Manner of which I shall here mention, because it does as properly belong to this Place as any. First, the Plow having cast up the Furrow, taking a good Slitch, (as they call it in Husbandry) after the Plow there follow 12 or 14 Men with Spades, who dig a Spit

a Spit deep in the bottom of the Furrow where the Plow hath gone, which they cast or lay upon the Ridge of Earth, which the Plow first threw up; then follows the next Turn of the Plow, but that which then cast up is thrown into the Trench, the Men left to fill it again: Then the Men, as before, still follow the Plow, and dig or cast out of this Second Furrow another Spade's Depth of Sand or Earth, which they cast, or the Second Ridge of Sand or Earth the Plow has cast up; and so on to the Third, Fourth, or Fifth Ridge; the Divers following the Plow, and the Plow them, during the whole Day's Work; by which you may perceive, that the upper Earth or Sand, or as we call it, the Turff-Spit is buried, and the undermost or fresh Sand laid uppermost; and this is the Rule we may follow in any thing relating to Gardening or Planting, tho' there is no Occasion of so much Trouble in Relation to Corn Land; but in this we ought by no means to go too deep, because (notwithstanding what has been here mention'd) the deeper you go, the poorer your Sand or Earth is; and I have seen Trenching 2 or 3 Spits has brought up so barren, that for some Years new planted Trees would not thrive therein, But, to go on with our Narration of Soils, 't's evident, that as much Rain and Wet is the Cause of Unfruitfulness in hollow, hungry Sands; so likewise is Drought; for the

the Earth being loose and hollow, the Sun by its Heat doth draw up the Moisture and Richness of the Earth and Soil, which the Rain does leave, by which means these kind of Earths are doubly robb'd of their vital Juices.

A Third Sort of Ground being barren and unfruitful is the Gravel which is mix'd with it, a hungry Earth resembling (or as it indeed properly is) a gritty, loose Sand: This Ground, if it lie high and mountainous, then the outward Face and Character will appear as it did in the poor Sand Clay, one Cause of its Barrenness is from Cold, the Gravel wanting good Earth to warm and nourish that which should grow in it; also because in Time of Drought, the Sun will scorch and burn up that which should grow thereon: And if this Graveley Ground lie low, then it is Subject to Land Springs, it naturally drawing the superfluous Moisture of all adjacent Lands; and this washes away all the Substance of the Soil, (which in its own is in Truth but little) also much Rain does likewise wash away the Fatness of the Earth, (instead of improving it) by Reason of the Roundness and Looseness of the Stones; so that what with the Waters within the Ground, and the Waters above the Ground, also the Heat and Scorching of the Sun, which doth dry up more easily its Moisture, this kind of Earth must of Necessity be unfruitful, neither

ther is there any way to improve it, but by gathering up the Stones, laying good Earth and Soil in the Room, and by making Drains to carry away the Water. I shall not advise any to buy or fix upon any Piece of Land on such an expensive Prospect ; nor to begin this piece of Husbandry, (unless there are Abundance of Conveniencies to ballance it) because the Charges will amount to so very much, and better Land, may, without doubt, be purchased at easier and less troublesome Rates.

Nor, as by the outward Face and Character, and by the Clime and Constitution of all simple Grounds doth appear the Richness and Fruitfulness of one, and the Barrenness of the other ; so likewise by the same Rule, there may be Judgment given of all compounded Grounds or mixed Earths, as Sand with Gravel, or Clay, or Loame with Gravel, or Sand, or other Earths ; but narrow Enquiry into all these will more properly come in, when we come to speak of Lands in particular, and their Improvements ; and thus much may suffice in general, to paint out the extreme Badness and Indifference of Soils in Relation to the choice, every Gentleman makes of an Estate or *Villa*, so far as it relates to Grass, Corn, and superficial Vegetables, and by this that has been spoken concerning the Nature of Grounds simple and compound, the Husbandmen may have

have true Knowledge to order and dress his Ground, and, by purging and cleansing the same from those Faults that hinder their Encrease, may expect the better Crop, if he is by any means obliged to make use of it.

But yet the honest Wood-man and Planter may be at a Loss in the planting and raisig of Timber, if his Enquiry be no deeper than the outward Face of the Earth ; for altho' every Ditcher can speak by Experience in the making a Ditch, that the Crust or good Earth many times doth lie but two or three Inches deep, and the next Earth proves a hard, hungry Gravel, about a Spade's Depth more ; the next Spades Depth under the Gravel is perhaps a cold, barren Clay, and under that sometimes there may be, tho' but rare, a good Loame, or Sand, tho' this last is so intercepted by the other Strata of bad Earth, that 'tis of little Use : However, this ought to induce all Gardeners and Planters as well as Purchasers, and Chusers of Scituations and Soils, not to be content with a superficial View of their Lands, but to examine them in several Places with a Spade ; and this ought the rather to be done, because I dare affirm, *that there is no Superficies of Earth, how poor soever it may be, but has in its own Bowels something or other for it's own Improvement.* An Instance of this Kind I have seen of a Person that digged a Saw-pit, and spreading the Stuff that came out

out about that Corner of his Ground, he found great Improvement thereby, which induc'd him to dig Pits on purpose, where-with he several times manured that Piece of Ground. So wisely has Providence order'd the Events of Nature in this, as well as other Matters ; and 'tis owing to our own Sluggishness or Want of Thought, that we make no better use of these Benefits, but this I shall more fully make out in its proper Place, and continue to affirm also, and pertinent to this, that there are as many Sorts of good and bad Earths under Ground, as there are above ; but, to proceed, there are other Grounds that have no Crust or good Earth above at all, but either a barren Sand, hungry Gravel, or cold Clay, and such like, and yet within 12 Inches deep you shall find a very good natur'd Earth ; and that there are several Veins of good and bad Earth of all Qualities, those that dig in Mines and Wells can averr ; also that there are several Veins of good and bad Earth upon the Ground, is obvious to the least curious Observer, and is what in particular Gardeners and Plowmen can testify. But there are several Sorts of Ground that may be good for Corn and Grass or small Fruit Trees, that are not good for the planting of Timber Trees. First, such Grounds that have a good Crust or Earth 12 or 14 Inches deep, and under this Earth a very cold, wet Gravel ; this Earth

is

is by no means good for Timber, for being full of Land Springs (which is Water running within the Earth, or is discover'd by breaking out or spewing up in many Places) This and the like I say are not good to plant or sow Timber Trees in, because after the Roots of the Trees have pass'd downwards deeper than the good Earth, the young and tender Shoots of Roots (being the Fibres) are by too much Moisture and cold Water within the Earth bechill'd and benumm'd, so that they have not Strength enough to entertain the Earth underneath the Water, or if they do, the Water, like a troublesome and unwelcome Guest, will be following after, and thereby hinders them in their Growth, and consequently ruins the Progress of the Tree; and tho' the Abeal, and some other one of the Aquatick Tribe, will do tolerably well in these Gravely Spewy Lands we have been speaking of, as well as in other dry hungry ones; yet it would be in vain to think of planting Oak, Ash, Beech, or even Elm, tho' an Aquatick, at any large Size; for these Bottoms are as bad as the strongest Clays, which are so very tenacious of Water and Rain, that we every Day see Trees pine away and die therein: For tho' there is in many Places Oak, &c. that do grow in these Kinds of Land, yet this we must attribute to Nature, that is to their being sow'd there, or to their springing up from the natural

Juices

Juices of the Earth, and this Way many Things are done, that we can by no means effect by Art; and this has led a great many Planters into Mistakes, of which I have elsewhere spoke of.

Secondly, Such Grounds as have the same or as good Earth as before mention'd, but underneath an undivided Rock or Quarry of a large Extent, these I say are not proper for planting Timber Trees in (whatever they may be for sowing) for after the Roots of the Trees have grown deeper into the Earth than the Crust or good Earth, as aforesaid, and reach unto the Rock, they cannot enter, and being only maintain'd by the upper Roots that spread along the Surface (shallow as it is) can never grow to any Bulk, not having sufficient Nourishment for all the Roots, and therefore necessarily want so much of their due Growth; and altho' such Trees may thrive 50 or 60 Years, yet, as they grow in height and greatness, so much the more are they in Danger of every Wind; because those Roots that should grow deep into the Earth, not only to support the Tree by Nourishment and ballance it by Weight, but as strong Cords to bind it fast unto the Earth, are altogether hindred and disappointed of their Use by Reason of the Rock and Quarry they grow upon: Also those Roots that touch the Rock, for want of Entrance will, in a short time,

time, perish and decay, and not only to the hindrance of the Growth, but to the shortning the Life of the Tree it self. The best Tree that will grow on these kind of Places is Ash, by Reason it is a Tree that naturally runs shallow, but even they are generally Pollards, such as will not advance to any degree of height.

This Stoppage and Decay of the Roots may be discern'd several ways. First, The middle Bough, that generally grows streight and upright, and proceeds from the Heart, will die and decay at the top, which may be known by the Paleness and the falling of the Leaf sooner than ordinary : Secondly, the Bark will grow black : Thirdly, The Sap, which is as the Blood, having not its natural Course, by Reason of the Stoppage of the Root, will break out into Boyles, which are great Bunches in the Bark, Body and Limbs of the Tree, and in time cause it to be hollow. Now since it concerns every one, that will be at the Charge of Planting, what Soil he plants in, he ought to search into the Bowels of the Earth at least 3 or 4 Foot deep, either by an Auger or by a Spade, which last is the best way because then, if the Hole be 3 or 4 Foot wide, you may view the several Teds and Strata as they lie involv'd one upon another, and may the better make Judgment of the Soil you are to plant upon, always remem-

that are proper for a Superficial Herbage, rememb'ring that there be many Grounds, that are not so for deep planting, for there is a vast Difference in planting and sowing of Corn, and planting and sowing of Trees; for the Husbandman in a Years Time, after his Seed is sown, may know the Nature of his Ground, and amend the Evils thereof, or forbear farther Charges, and let it rest for the feeding of Cattle: Whereas the Planter must wait many Years in Expectation to know the Goodness of his Ground, and only guess at last, without any Certainty, only by the Growth or thriving of the Trees planted, which Event is commonly too late for the present Possessor to amend, and leaves him under the unhappy Reflection of laying out his Money to no manner of purpose.

Having taken a brief Survey of unfruitful Grounds, by Reason of the Constitution and Clime, or Scituatiōn of the Countries wherein they lie; it will be needless to speak of those rich and fruitful Clays in *Buckingham* and *Leicestershire*, &c. of those fruitful Sands in *Surry*, *Middlesex*, and *Suffolk*; also those rich and fruitful Gravels, and compounded and mix'd Earths in *Barkshire* and *Hartfordshire*, with many other Shires, *by their Productions you shall know them*: All these good Soils, if there be no Hindrance in the Bowels of the Earth formerly spoke of, will require no other Charges than only the Choice of

good Plants and good Seed, be it in their respective Considerations for the use either of the Husbandman, or the Gardener and Planter; as for poor unfruitful Grounds, having but a thin Crust; yet good Earth at the Depth of 18 or 20 Inches, the Seed or Plants that are to be planted in such Grounds are to be nourish'd and maintain'd, until their Roots descend and reach unto that good Earth; therefore, not only choice Plants are to be provided, but also good Earth to set or plant therein, those Plants, Trees or Seeds, but of this you will hereafter have more ample Directions.

To sum up all, there are few of those Lands formerly mention'd, but may be made tolerably good for planting Timber Trees in; and fewer yet but may be good for Corn and Grafs except these following. First, All Lands that be near the skirts of the Sea, for the Mists, Foggs, and Winds that come thence, much endanger them and hinder their thriving. Secondly, All high and dry Mountains, for they do not only want Moistness of Earth, but are infected by great Winds which frequently blow in those Places, and are very hurtful; and although there are, and have been seen Trees growing on high Hills, yet it is my Opinion they were not planted there by Man, but were the Production of the Earth, and an Effect of the first Creation. Thirdly, All Lands that lye flat, and are Subject to Inundations

of

of Waters, for want of a Descent or Current to carry them off some way or other ; for altho' moist Earth is good for Trees, yet too much Moisture, as Water lying long on the Ground, or at the Roots of Trees is dangerous if not mortal, as is before intimated. Fourthly, All moorish Grounds ; for although there are, and has been many great Trees growing in such Grounds, yet very seldom found any well colour'd or long liv'd Timber Trees : And how bad they are for Fruits common Experience tells. Fifthly, All entire and chalky Grounds ; for such Grounds are cold and dry, and not good for Trees, except there be good Depth of Earth upon it, or a Mixture of other Earth, with that or any other such like Ground that draws the Roots down thro' the Clifts and Crevices thereof. Sixthly, All Grounds that are rocky or very stony, either under or above the Earth ; for altho' Trees may thrive in such Grounds, yet it will require much Labour and Pains : And I am very dubious of any long thriving of such Trees, where thus have extending their due Bounds, and are got into the naturally bad Soil.

It is indeed a great Satisfaction and Surprise to see all those numerous Plantations, that are at *Elenheim*, and other Places of Mrs. *London*, and *Wise*'s carrying on ; tho' they are there as well as elsewhere, very near a rocky, shelly, or else clayey Bottom ; but there has been that Care and Expence in remedying the Defects of

Nature, that is not perhaps in the Power of any private Purse to perform; whoever would then chuse a Soil for himself, should be particularly careful in this Point: 1000 l. being soon expended to remedy any Defect in this Matter.

I have now finisht what I thought fit to premise for the Choice of Soils in general, as it relates to the Instructions of those that are to purchase *Villa's* for planting, &c. The particular Nature of Earths with all its Improvements will more properly come in some of the succeeding Periods: The next Consideration is concerning Wood, the Beauty of which is so well known, and so generally acknowledged by all, who have the least Taste of Country Amusements, that there seems to be no Occasion for me to enlarge upon it, especially in *England*, where 'tis our Ornament and Safeguard at home, but our Puisance and Glory abroad: 'Tis in very many Respects the truly *Decus* and *Tutamen* of these happy Islands, the Loss and Neglect of propagating, of which may in Time end in the fatal and unhappy Dissolution of the noblest Kingdoms in the World.

Of this we have several kinds that excel each other in the Object of their Choice: The Principal whereof, is the Oak, Elm, and Beach: Of an inferior Account, Ash, Chestnut, Sycamore, and Maple; and for Beauty and Ornament, the Lyme, Yew, Holley, &c. those Woods are so much the more beautiful

as

as they are plac'd, or not plac'd on Eminences sloping Hills with Vallies between them, as they are naturally and promiscuously scatter'd and dispers'd over a whole Estate ; and it seems to be a great Mistake of those that esteem nothing to be beautiful, but what is regularly planted and distributed out, as are many of Avenues leading to great Houses : Since the Beauty of this Regularity is easily seen at once, and then the Mind is by Nature soon cloy'd of it, but in the other, how pleasingly does it rove uncontrol'd thro' the promiscuous Scenes of a Country. There are others seem to mistake; in thinking none more beautiful, than that that is plac'd thick and close together, as are our common Coppices, but I should rather advise it to be (as already hinted) mix'd with Lawns, Vallies, and rising Hills, that should be always presenting themselves to the Rise of the Beholder, with open Glades, Corn Fields, and Pasture Lands ; in this Place a Hillock of Oaks for Shade ; in that a hollow and natural Lawn with a Cave or Grott ; in one, if possible, a winding Valley between Two rising or sloping Hills of Wood : Here purling Streams ; and in another place, Water rowling down not over polish'd Masonry, but over the roughest Frost-work and rugged Stone, cover'd with Moss and other lapidary Excrescencies and Herbs ; these agreeable Conveniencies with a little Improvement will without doubt answer the de-

sign and employ the thoughts of the most curious Designer.

But however, beautiful Wood and these other Embellishments of Nature are, unless it meets with a skilful hand in the Management, 'tis commonly spoil'd; this I have already spoke to, and so at present contenting my self to caution, that if the Wood is already grown and the House to be built, that great Care be taken in the placing; for that there are Cases, when Wood however beautiful soever in it self may be in a wrong Place, and therefore ought to be cut away or the House so plac'd, that it may be deprived of some distant View; such is the Case when you have blue Hills, a fine Valley, or some noble Lawn, Tower or rising Hills, cloth'd with Wood at a large Distance: These are Beauties so noble, that even grown Wood ought to be cut down to admit an open View to it. And yet so inconsiderate are many Designers in this Matter, that, in order to make out one of their fine Draughts, 'tis very often seen that the Wood or Wilderness is clapt just in the way; and our distant unlimited Prospect spoil'd; the Sum of this is, that all Designers ought to have a particular REGARD how Wood is plac'd, that it be not too near the House, and that it does in no wise obstruct a distinct View. What is said of Wood already grown, will direct the management of Wood to be hereafter sown or planted, with this difference, that the Fault of

of doing Wrong will be then the more inexcusable, because the Designer has liberty and time to distinguish, how and where to place Wood with Discretion; if towards a barren Country or ill Prospect, then Wood at the Extremity of the owners own Estate to blind it; if the distant Prospect be good for the opposite Reason of the other, cut it quite down or be sure to plant no new Wood at all next some kind of Water.

The Beauty and Convenience of which is so great, that a Person can't be said to have made good Choice of a Country Seat, unless he has taken particular Notice of this; he is then first to find out the Spring-head, to take (as shall be hereafter directed) its Fall to the House, he is to examine what quantity it will afford in its dryest Season, he is to find out as large a Head as he can to penn up a Reserve in Case of dry Weather; and last of all he is to see, if a proper way can be found to carry off all Superfluities; and if no Spring is to be found, how he may collect Rain and Flood Water together into large Ponds; or how he may by Engines force Water up to the Top of the Levels both for Use and Beauty. What are the Prizes of Engines, Conveyances, Drains, Pipes, and other Appurtenances, is taught more at large in the Chapter of Water-works. If all these come within the Compass of a reasonable Expence, they will, 'tis hop'd, answer

the Pains and Care he has been at in this Choice.

The Summary of all that has been said as to Scituations.

The Sum of what has been offer'd, relating to the happy Choice of Scituations, seems to be this, that it be a midling one, as we are here supposing 'tis, and upon a gentle Plain declining towards the South; one Inch in ten Foot is what we reckon a very proper Fall, but if it is much improv'd by Slopes and Terrace Walks as has already been directed, then you dispense with three or four Foot, in ten Foot Fall, or more. Again, it consists of a good Corn Land, red Soil, or a black Pasture Land, and principally of a firm gravelly Bottom; the Conveniencies of which being already touch'd upon in the beginning of this Chapter, I shall now enlarge upon.

And first, in Respect of that Benefit, it is to all sorts of Trees, as it keeps their Roots from running Deep, and contracting those Diseases, especially Barrenness, that commonly attend them under that Misfortune, to illustrate this by a few speculative Arguments: If the Sun be allow'd (as Philosophers by Allusion call it) to be the Father, and the Earth the Mother of Vegetation, 'tis not hard to conceive how those Roots of Trees, that are descended deep into the Earth, should be entirely destitute of proper

proper Nutriment, for tho' there are in every particular.

Stratum or Bed of the Earth Juices, which those Roots avaritiously imbibe, yet by their Distance, from the Sun they must of consequence be gross and undigested, and not in any Degree rarify'd for such Productoin as Nature has assign'd to all sorts of Trees, especially the Fruit bearing kind ; for, tho' Forest Trees will prosper tolerably well in free, clear Soil, notwithstanding they are planted or run deep down into the Earth, yet Fruit Trees will not, being of much tenderer, and the Juices that constitute such Fruit ought to be of a much more refined Nature.

This gravelly Bottom is of no less Use in relation to the Beauty of Turff and Carpet Walks, if it lie not so near as to burn it up ; for tho' it keeps the Roots of Trees from running deep into the Ground, it nevertheless receives all superfluous Moisture that would otherwise stagnate and rot the emulgent Fibres and Roots of Trees (which is too often the Case in clayey Grounds) and not only that, but is of great Inconveniencie to the Owner in his Walks, from place to place, where without great Expence in Drains he goes through the most uncomfortable Difficulty that attends a Country Seat, especially in the Winter, so great indeed that if he had all the other advantages of Choice in this Matter, and this one should be wanting, 'tis such a Want as would

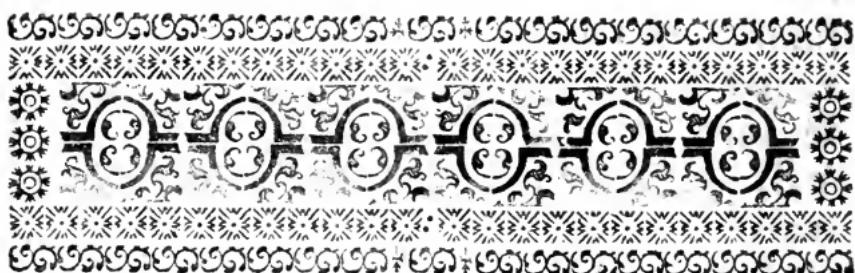
would marr all the Pleasure of a Seat. But, in commendation of Gravel, if to it be added the Ease by which we procure it for making of Walks in our Gardens and *Villa's*, 'tis of the greatest Importance. Since the chief Pleasure of a Country Seat is either early in the Morning, or late in the Evening; at such times as Dews very much incommoded one's Passage from one Garden Field or Closure to another; what Felicity or Convenience can any Person propose to himself in the walking over and viewing the Beauty of a *Villa*, at the most pleasant Time and Season of the Year and Day, if he has not Gravel to make some dry Walks that communicate one with another, and convey him from place to place through it; there is then no one that makes any Choice of an Estate; but would upon all occasions have a great Regard to this.

To finish, then, what can be said as to Scituations; they ought not to be too near any fenny, boggy, or morassly Land, or standing Lakes, or even very slow pac'd Rivers; for that the Foggs and Vapours will very much incommoded and annoy the habitating there, and if near the Building, should be rather plac'd on the North and North East, than on the South Side thereof, since the Sun draws all the Vapours thereof to its self; and therefore on the South and South East, which draw up the Morning Fogg, those Scituations must be very unwholesome in such Low-Grounds,

the

the Fruit likewise watry and squashy, and is by no means so good as Up-Land. The Wood round it should likewise not be so thick as in common Coppices; for that creates Damps, and, as I can't recommend a very low Situation, so a very naked and high one, in my humble Opinion, is as much to be rejected, where the Dweller is continually expos'd to the Terror and Noise of ruffling Winds; what I have already urg'd in relation to the Bottom, which ought to be chose for the sake of Fruits and Convenience of Passage will I hope be sufficient.

To conclude, then the Conveniency of a Situation, it ought likewise to be in a Country well inhabited, within a reasonable Distance of a Country Town and a navigable River, if possible, and free from troublesome and contentious Neighbours, and High-ways, that cross any of the best Part of the *Villa* or *Farm*; that it be in a Country well stor'd with Wood, or, which is better, Coal, since 'tis impossible to express the Havock that great Families make in a small wooded Estate, in a little time: This seems to be the best choice a judicious Man can make for his Habitation; in this he may, if not wanting to himself, may reap all the Felicity this Life can afford, and by a virtuous and careful Life become fit for an ever happy Place, where this only can be exceeded, and of which this is a proper Type and Emblematical Representation.



C H A P. IV.

S E C T I O N I V.

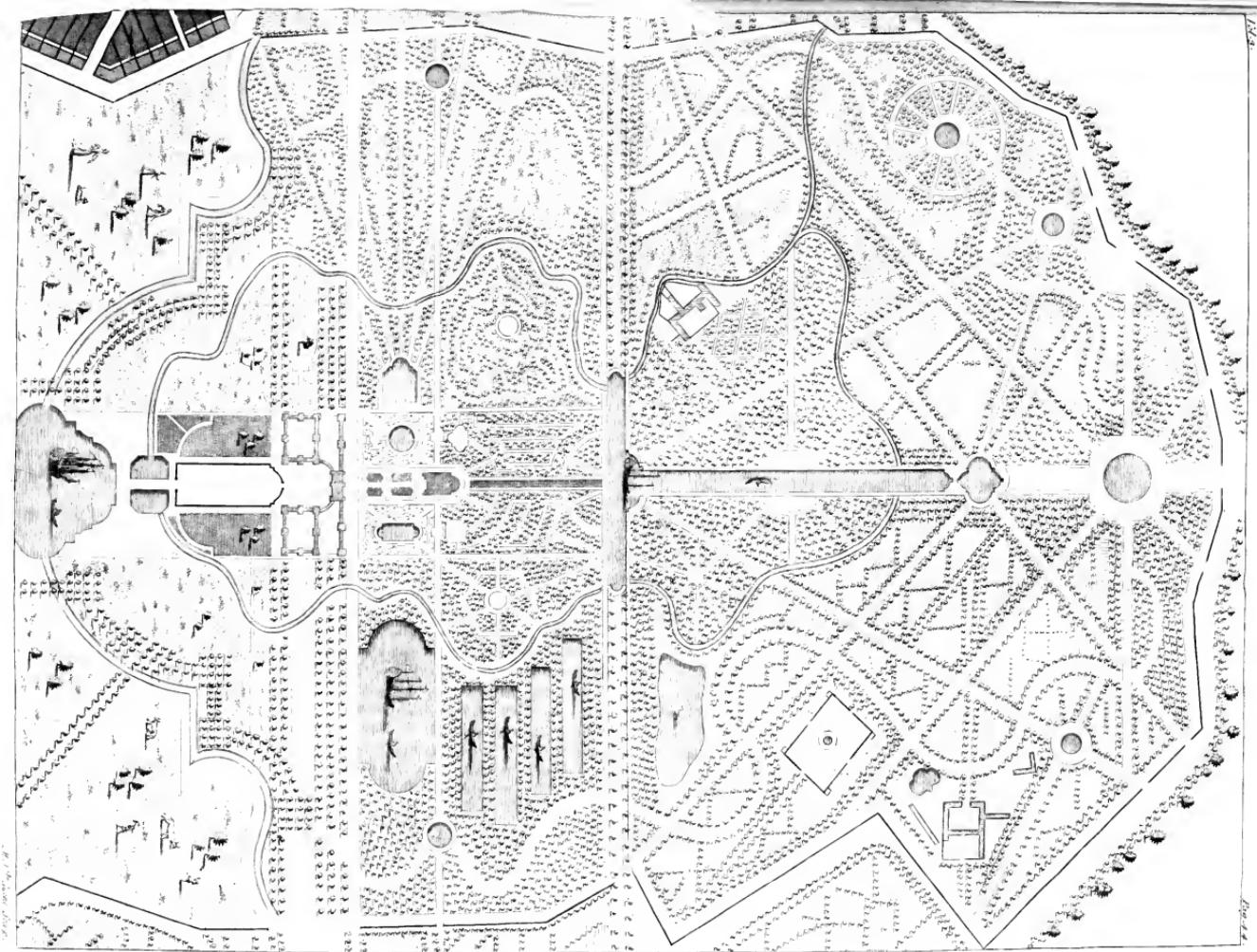
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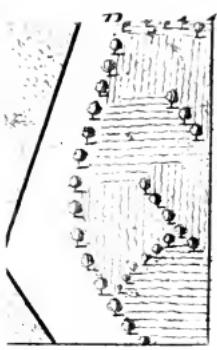
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R u r a l a n d E x t e n s i v e G a r d e n i n g.

HE foregoing Chapters being purely preliminary to this that follows; we come now to the main Design of this Book (*viz.*) the Delineation of Rural and Extensive Gardens, of which having spoke considerably in the Introduction Part, and in some of the foregoing Chapters of this Volume, there seems little Occasion to enlarge, much less to repeat what is there said in its Recommendation, the properest Method (after a short Recapitulation) to illustrate it, is by a Reference to those few Plates that follow.

The





Nectec 21

The Chief of our Design in this Book, being the Decoration and Embellishment of a whole Estate, or at least, that Part of it that lies most contiguous to the Mansion House, instead of such vast and expensive Gardens, that the Folly of this and the past Ages hath run into, whereby that most innocent and harmless Employ, is become a Burthen too great for the biggest Estate, and the Gardens themselves not at all answerable to the needless Expence that is laid out upon them.

For, supposing a Person should be posses'd of a Garden, thirty, forty, fifty, nay, as it is sometimes seen, of a hundred Acres of Ground; the Beauty is soon discover'd, and at the same time that that is, the Love of it too often vanishes, and when we come to add the Expence thereto, we soon find it a loath-some Burden, or the Owner whilst perhaps at the same time his Estate that lies contiguous to him, is as much neglected, when by spreadin Money more lightly at home, it might in a great measure be dress'd and improv'd, and be made altogether as beautiful as the most elaborate Garden; besides, the affording him a continual Profit and Employ.

To confirm this Supposition; if his Grounds were handsomly divided by Avenues and Hedges; and if the little Walks and Paths that ought to run through and betwixt them, were made either of Gravel or Sand; and if there were Trees for Shades with little Walks and purling

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purling Streams, mix'd and incorporated one with another, what cou'd be more diverting? And why, is not a level easy Walk of Gravel or Sand shaded over with Trees, and running thro' a Corn Field or Pasture Ground, as pleasing as the largest Walk in the most magnificent Garden one can think of? And why, are not little Gardens and Basons of Water as useful and surprizing (and indeed why not more so) at some considerable Distance from the Mansion House, as they are near it? Besides as these Hedge Rows, little natural Coppices, large Woods, Corn Fields, &c. mix'd one amongst another, are as delightful as the finest Garden; so they are much cheaper made, and still cheaper kept. And more than all, the careless and loose Trellises of Nature, that are easily mov'd by the least Breath of Wind, offer more to the Imagination than the most delicate Pyramid, or any of the longest and most elaborately clip'd Espalier, that it is possible to make; for, altho' we don't by this absolutely reject, in some few proper Places something of that kind, yet why should that be thought such a Beauty, as to exclude things more Natural? And why should not a judicious Mixture and Incorporation, of one with the other quite thro' a large Estate, be of more value, (*viz.*) as at or near the House, a little more exactitude is required; so after that view is over one would sometimes be passing thro' little Pad-
ducks,

ducks and Corn Fields, sometimes thro' wild Coppices, and Gardens, and sometimes by purling Brooks and Streams, Places that are set off not by nice Art, but by luxury of Nature, a little guided in her Extravagancies by the Artists Hand, while sometimes it may not be improper unexpe&tedly to fall into a little correct, and elaborate Garden; but, as those should not be too often so, they ought not to be too large.

Again, why should we be at that great Expence of levelling of Hills, or filling up of Dales, when they are the Beauty of Nature? Why should we esteem nothing but large regular Walks, the only Characteristicks of a noble Seat? But, for diversity, should not rather mix therewith Serpentine Meanders; and instead of levelling Hills or filling up Dales, should think it more entertaining to be sometimes on the Precipice of a Hill viewing all round and under us, and at other times in a Bottom, viewing those goodly Hills and Theatres of Wood and Corn that are above us, and present themselves every where to our View? And, if we have not such by Nature, to create them by Art, by digging a Hole in one place, to make a Hill in another; and so to make the most level Country (which of all others is the least beautiful) as delightful as any thing that Nature throws in our way or Art can create.

But

But, to pass by these innumerable Considerations, that these rural Scenes affords us, and come to the Practice it self, and to the further Prosecution of this Intent of rural Gardening, which is likewise recommended to us by its Profit, in Lawns and Padducks, for grazing in Corn Fields and Kitchen Gardens, and in little Woods, Coppices, and Hedge Rows mix'd therewith, and abounding with Pheasants and Partridges, with Hares, and all other useful Game, and stock'd with Apples, Plums, Pears, and Filberts, and in short, instead of an exact nice Garden, a whole Estate, be it either 50, 60, nay sometimes of 100, or 200 Acres, strow'd all over with the afore-mentioned Conveniencies, for Use, Beauty and Profit.

I know there is an Objection already rais'd against this way of dividing, planting, and sowing, an Estate into small divisions; for some (and perhaps the Shepherd and Farmer will concurr with them) say, this way of planting, will shade our Ground, and make our Grafs sour, and fit for our Cattle; to which I answer that I don't suppose these Grounds that lie contiguous to the Mansion House to be for the Use of Sheep: And 'tis Sheep only they can pretend to bring in to support this Objection; but even in this Case, in many places where the Ground is a sandy Loame, or other sweetly dispos'd Lands, Sheep will feed as well, and are altogether as fat as in

in Enclosures of an Acre, nay half an Acre, as they are in the openest Fields of 20 or 30 Acres, as I have seen my self in *Yorkshire* in divided Lands that I have surveyed, some of which for their Shape and Smallness are call'd Shoulders of Mutton; notwithstanding, the Irregularity of which Shape they plow and sow them, as truly as any other regular Pieces whatsoever; which is an Answer to another Objection, that I foresee will be started, (*viz.*) that this rural Way will (by its Serpentine Lines) cut all the Fields of an Estate into irregular Shapes and circular Turns, and, consequently, spoil an Estate in Relation to Tillage.

It is very happy for me, that some of our Rustick Authors that have gone before me, have so strenuously asserted the Advantage of enclosing an Estate, and dividing large Fields into several Divisions, as that after this Division it is known to let for more, if the Landlord were to let it; because by these Divisions, the Tenant has the Opportunity of feeding and breeding more and different Sorts of Cattle, than he otherwise could. But, which is of more Advantage yet, and which I would advise my Reader to take particular Notice of, that as these Trees and Hedge Rows keep the Ground warm in Winter, by which means the Grass grows even in the middle thereof, in some Degree or other; so in all light Lands they won-

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derfully hinder the Sun in Summer from eradicating the natural and genial Moisture of the Earth, to which we may add the Defence they yield to Cattle, in the Extremity either of Heat or Cold. And now

The next Plate, that I shall present the Reader with, is the general Distribution of all those Offices, Yards, Gardens, &c. that lie next to the Mansion House, and, after that, some few extensive Designs; in which, I hope, will plainly appear the Disposition of all the other Parts of an Estate, and that harmonious Agreement, that there ought to be of one Part with another, and how the same may best be effected.

When, therefore, you have fix'd upon the Center of a Design, (*viz.*) the Place where the House is to be, and have from thence taken the Survey of your Ground round, and the same is plotted on Paper; you are to begin to cast it first on a Method on Paper, I mean, that Part that lies next the House, which is intended to be divided into Court Yards, Parterres, &c.

A Design of this Kind is in the next Plate, and will serve in almost any Place, where there are 10 or 12 Acres of Level Ground on one Spot, which Quantity one can seldom fail of; and it must be also observ'd, that tho' this Design, by supposing the Front of the Building to be 200 Foot, will yet serve to a Building of 100 Foot, or 150 Foot, more

more or less, and the Designer may accordingly alter the Scale at his Pleasure.

All that ought to be allow'd to, what may properly be call'd, Gardens, or other Court Yards, Buildings, and Offices of Convenience, should not be above Five or Six Acres in middling Designs, nor above 20 in the greatest. This Tract of Ground ought to be fenc'd, that Beasts and Cattle do not come to trample the Ground, or break and crop any of the Trees that grow upon it, and, because the Grounds adjoining to such Buildings, are for the most Part Lawns and Plats of Grass, and other Materials, that will otherwise very much suffer by this Inconvenience; it will be absolutely necessary to consider, how to do this as soon as any thing; and this will opportunely fall in this next Plate, leaving the other exterior Parts of our more grand and extensive Design to follow.

The several Particulars of this, *viz.* Court Yards, Terrace Walks, and Parterres, have already been treated of, and this must be taken as an Abstract or *Summa Totalis* of what has been deliver'd; only the most frugal Methods will be here laid down, which were in some measure omitted in the foregoing Schemes, where Respect was chiefly had to the Proportion and Magnificence of each respectively.

*Observations and Directions, for Plate the
Thirty Sixth.*

The First Figure in the ensuing Plate presents us with the general Plan of a Building, with the Court Yards Offices, Gardens, &c. thereunto adjoining. And the Second Figure of the same Plate, the Ground stak'd out into those Divisions; and, since, as is before hinted, most Situations allow such a Level as this, this, or some Design like this is, and may be the Plan of our Proceedings, especially, in all new undertakings, where there is such an open Level Spot.

To accomplish which, we must suppose that the Building is adjusted and stak'd out by the Builders themselves, as it is indeed, their proper Business, the Plan of which being given, the Gardener draws into such a Compass, as that he may intelligibly figure every Creek thereof, since it is by them he is to govern himself, in all that lies contiguous thereto; his Scale that he chuses may be from 40 to 100 in Inches, according as the thickness of his Work requires, but, generally speaking, what I have named is sufficient Room for the figuring, or, as we shall for the most call it, the Quotations on the Paper.

And you are to observe, that not only in the inside of the Design, but also on the outside, there are several general Lengths figur'd, to which the Gardener may immediately repair

pair for any Question he derives upon his Draught, as to Length and Width.

Upon this Paper having then made an Abridgment of the whole Design, or, which is rather a plainer Way of expressing it, reduced the whole Plan into a smaller Scale than the Original, (perhaps, from 25 in an Inch to 40, from 30 to 60, or from 40 to 80, and so on) you will by a little Extension of the Lines, the Boundaries of the Plan, at least, that Part of it that lies nearest to our Building, which suppose to be the Lines mark'd out, Figure the 1st, on the next Plate,

Which Lines, being all quoted as to their Length and Breadth upon our Draft, or Paper, as above (For it is the most puzzling thing imaginable to let that alone, and to take the Length and Width of by the Compasses in the Field) you are to begin, first, at the House, all the Lines there being stak'd out already by the Builders, as before mention'd: Then having found the middle Line (which indeed is, or already ought to be, done by the Builders in the setting out the Foundations of their Work) you are to set off, first, the Terrace Walks, a hundred Foot the Horizontal Lines of the Slope down into the Parterre, ten Foot out each place, setting down Stakes, exactly in the Places where those Dimensions fall.

Keeping then strait forwards in the middle Lines, you are to set off three hundred and fifteen Foot for the length of the Parterre,

and ten Foot for the Horizontal of the next Slope, and the three hundred and thirty five Foot to the Center of the Sweep, at the upper-end of the Parterre of Water, or Bowling-green of Grass, be it which it will, which Sweep being there from mark'd out, as eighty Foot, and the Walk thirty Foot, at the end of it, you are to measure the Extent of the middle Line, be it five hundred and thirty Foot as upon the Draft, or more, or less.

This being done, you are to return where you began, and then consider, something concerning your Levels or Profile Lines. Concerning this, I have been already very particular, and shall here need only direct, that the first hundred Foot ought to be near a dead Level, as we call it, because, if there are Peers at each end, as there generally are on all great Terraces, the Plinth will otherwise have but a very ill Aspect.

The ten Foot Slope we here allow three Foot and a half Perpendicular to, if the Ground allow it, or otherwise, but by no means less than two Foot and a half, in which last case you must contract the Horizontal Line of your Slope to seven Foot, or thereabouts, otherwise it will be too flat.

To pursue our Profile, and allowing an Inch in ten Foot fall, it comes thirty one Inches and a half fall in the Parterre, and that you will fix by making a dead Level at the upper end at A, (as has been already taught) and

and by slipping the Rule up and down at the lower-end of the Parterre at E, a piece of Paper, and driving the Stake there, till it comes to the exact measure of two Foot, seven Inches and an half.

'Tis true, these sinkings might have been done as you went all along in the measuring ; but I have in this place, a desire to show the Plan, and Profile distinctly, and so leave it to the Gardeners Choice. And now let us go on again to sink the Slope, which, supposing to be three Foot and a half, either more or less, according as the Ground seems best to allow ; for I would by no means limit any Body ; the sinking or raising an Inch may save the Workman 10 or 20*l.* in his Pocket, and the Work never the worse ; and the truth is, 'tis in this, that the greatest Judgment of an Undertaker consists, (*viz.*) that he has so great Care and Knowledge as to fix his Levels in such a manner, that he may not have any Earth to bring in, or to carry away.

But, to re-assume the Subject we were upon, we are now fallen from the Levels of the grand Terrace, first, three Foot and a half, then, two Foot seven Inches and a half, and, last of all, three Foot and a half, which is in all nine Foot seven Inches and a half, and by this last Level, either a Parterre of Water, or a Bowling-green, or any other Level Parterre, or Lawn of Grafs, we may perceive according to the Draft, that we are

at the lower-end of our Levels, and in entring upon our Wood-work: It is therefore now our purpose, having establish'd the middle Line and Level, to let the further-end of the Ground Walk to be followed as it naturally lies, (except there should happen to be an extraordinary deep Hole, or a Hill, that stopps the View) to let it have its said natural Course, and to return to the lining and levelling of the Side Divisions of this Design.

It is very obvious to any, that understand the least of Line and Level, that the Divisions quite round the Building, and the great Terrace that the Levels thereof depend on the Bottom of the Plinth of the Basis of the House; and that every Undertaker ought to so forecast his Business, that the Earth that comes out of the Foundations and Cellars of the Building, should supply all the Defects of the natural Ground, that it should help to raise that and a'l the Terraces, and give the Building it self that Elevation, that is required to it, in order to compleat its Beauty and Magnificence; and this is the particular Care of the Surveyor and Gardener, and not so much the Builders, who very seldom and (indeed it is not so much their Business) care whereabout they fix their Plinth and Basis, leaving the Gardener at last to remove, perhaps, at a very great Disadvantage, all the superfluous Earth that lies round the Buildings, and entails an Expence almost as great as the making his Gardens, and the

Building

Building at the same Time, bury'd as it were, under Ground.

The Plinth ought, then, to be at least three Foot and a half, above the common Level of the Ground ; for 'tis easy, in Case an error is committed on that Side the Question, to remedy it.

I need not say much here, as to the lining out those Out-court Yards, as to the levelling and first fixing the Plinth ; for in Case we should by mistake fix the Levels a little too high, 'tis an easy matter to make good the Terraces, by finking the Parterre or Court Yards a little the lower ; and if the Terraces are four or five high round the Building, it is yet an error on the right Side, and as has been often observ'd, makes the Building still the loftier.

This being well understood, and the Level and Bottom of the Plinth fix'd rather too high than too low, it is easy to fix in and level the Stakes in the grand Court, and the lesser Court Yards, from those that the Masons and the Gardener agree upon for the Level ; and if the Ground falls off, to let those Courts hang likewise ; and if otherwise, to let them remain on a dead Level. And from this let us return to the staking out, and levelling the Side Terraces, which I would in such a Design, as this, always, plead for, for the Reasons I have urged in the Chapter treating of Terrace

race Walks, where the Method of doing it is likewise handled.

It is sufficient here to intimate, that at the Letters O O, a dead Level be carryed on as far as the Peers on each End at B B, thus far however is requisite should be dead Level ; but afterwards, we shall fall into our Woody Scenes, as will be seen in a sequent Plate, and then we shall follow the natural Fall and Rise of the Ground ; and this will let us likewise into a Consideration, how long we should make our great Terrace of a Level, which we may venture to fix at 600 or 700 Feet, or 1000 at most, and thus long are the two best Terraces in their respective Kinds, that we have in *England*.

Whether the End of this Terrace should be stopp'd by a Gras or Grill, will be argued by and by ; tho' a Grass is certainly the best, as lying most open. As for the Side Divisions of Wood on each Side the Parterre, let them be according as the Ground is too, it will not be a Fault in them, if one of them lies one Foot or two higher than the other, it is not seen in a Wood, tho' it may be a Blemish in an open Terrace, Lawn or Parterre. And hence forward we shall follow Nature, and think no more of levelling any otherwise than a cross the Walk, which ought not to be sideling ; because it will be an Inconvenienc to the Persons that walks in it, and as for the lining this and the lower part of the Wood out, the

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Design as it appears stak'd out, tells more than many Words.

I shall only advise on this, of Line and Level, that the Slopes of the Side Terraces in the Bottom, Level of the Bowling-green, or otherwise the Parterre of Water, are by the cast-fall made considerably greater, in Truth just double; for that the Side Terraces should keep the Level all of one length quite thro'. When therefore the level is made across the head of our Work at O O, and at A, that then you repeat the same at D, quite cross the Bottom of the Work, letting the side Terraces hang half an Inch in ten Foot, as the Parterre above does an Inch; and this will cause the Stakes at F F, the Top of the Side Terraces, at the lower-end to be two Foot and six Inches, or there-abouts fall, and the same Level at F F, to be (supposing the Level of the Bowling-green, or Parterre of Water, a dead one, which it must be) four Foot six Inches; besides, if it be suppos'd to cramp the Slope, 'tis an easy matter to give the Walks on each side the said Bowling-green, &c. a Foot dependance to the Bottom of the Lawn; and that will make the Head of the Terrace at F F, five Foot six Inches, which will make the Crampness of the two Levels imperceptible; I mean, that of the upper Level falling an Inch in ten Foot, and the lower one, being upon a dead Level, whilst
the

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the Terrace of each Side, must have an equal depending Line.

But I must not finish this Section, before I remark, that, at the End of the Side Terrace, instead of Stone Steps, there may be observ'd to be only Slopes of Grass. For as the Intent of the Writing, this Terrace is to save all the Expences possible, so I can't but observe in this place, to what a needless Expence, many Gentlemen run themselves in Stone Work and Stone Steps.

I do not by any means argue against the Beauty of them, and against their use in the grand Designs of Princes; but they are in themselves, so expensive that all those Persons that attempt at a frugal Way of Gardening, ought by all means to avoid them. 40 or 50^{l.} is soon Expended in such Works; and that Sum of Money will do a great deal in extensive and rural Gardening; and besides, tho' that be but a despicable Sum in comparison, yet we ought to remember that ancient frugal Proverb, *Every little makes a mickle*; and that being often repeated, it very much enhances the Expence of Gardening.

One would therefore use Steps, but in the two Slopes, that fall down one under another, and, the truth is, the Design of Slopes, is also to save Expence; for that your Terrace Walls as are generally made, are to be rejected as much as possible likewise.

The

The Proportion that one would allow in such Slopes, where Steps should be (and for frugality we make Slopes of Grass) should be at least five or six Foot Horizontal to one perpendicular ; according to which these Slopes are about forty Foot Horizontal, which is full enough ; and, in case of Want, of Room thirty Foot would have done very well. And with this, I shall finish what I had to say, as to the Delineation and Profile of this Design, coming now to the Method to be taken in working it.

SECTION V.

Of the Method of working the afore-mention'd Design.

THE Ground being stak'd out, as is before directed, with Stakes of 6 Inches square, and, if it be a loose hollow Ground, of two Foot and a half, or three Foot long : or, if a clayey fast Ground, one Foot and a half, or two Foot is sufficient ; if the Stakes drive hard, they ought to be of hardest, knotty, surly Oak, and so strong, that four or five Men may drive them down with Sledges or Beetles as we commonly call them ; for it must be observ'd, that on the Design before-going, there are but a few principal Stakes mark'd therein, which Stakes ought to be so fix'd, that no Cart or other

com-

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common Accident may remove them ; which, if you suffer, the Lines will be always out of Order, and the Levels so uncertain, that it will be the greatest Perplexity imaginable to work ; and at last, perhaps, it will be all false, and to do again ; and this is a misfortune that happens so often, that I can't but repeat my Directions again and again in this Point ; since by the Carelessness of Workmen, Carters, and Labourers, your Stakes will be so confounded, that 'twill be hard to find where about you are, without often beginning *de novo*, and tracing your Levels over again.

The Gardener ought, therefore, to lay an Heap of Bushes round these main Stakes, to secure them against what may happen, and as for those Stakes, that are to be put at every ten or fifteen Foot distance between them, then it will be time enough to do that just as your is Work going forward, which may be done with smaller Stakes ; but be sure these angular and main Stakes be strong, and drove in by four or five Men as hard as they can drive them, so will your first Onset be secure, and you may with Pleasure proceed to what follows.

And in the first place, the Ground being thus mark'd out, if your Swarth and Turff be good, and the Season proper, you are to consider, how to use that to the best Advantage. I mean the Turff cut, as we commonly

monly do it, about six Inches Thick, and used in the covering of our Carpet and Terrace Walks, and on our Plates and Lawn of Grafs, or Bowling green; and here it must be observ'd, that, tho' the Turff it self may be coarse, yet a little good keeping by moving, rowling, &c. will make it fine, and it will be a great Convenience, and save a considerable Sum of Money, if you can have Turff enough there, or in any Pasture Ground near at hand, which will by sowing of Hay-seed, soon come again fine enough for its own Purpose; perhaps the Convenience of this Turff may save the Owner 50 or 60*l.* in his Pocket, Carriage being what a Man ought above all things carefully to avoid, altho', as I have often heard the weakness of the Arguments, the Draughts (as they commonly call them in the North) be the Masters own, yet in this Work he will find too many things of absolute Necessity to be done by them, to employ them idly; besides, they must at the same time have care to feed them well, and Cart Gears, and the Attendance of two Men, which might be otherwise, and, perhaps, much better employ'd.

We begin, then, in this Case, with the Par-terre quarters mark'd H H, for it is no matter, when the full Design is stak'd out, whether one begin in the middle, or at which end it be, the Pains and Care we have been at, in adjusting the Line and Level sufficiently answers that

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that, and we may begin where the Nature of our Work and Materials require.

It is always to be observ'd, that our Stake Heads are 6 Inches or more above the common Level of the Ground, to give Room for the straining and tying the Garden Line, for levelling and raking. Having then rang'd in smaller Stakes in the quarters H H, and reduc'd them to a rough Level, and having also some fine Mold at hand, to throw over to rake fine in order for the Turff, (which Levelling, Raking, &c. has been taught elsewhere) you are to lay your Turff, and having finish'd both quarters, you are to proceed to the large Bowls below, placing round the Edges of your Grass, to keep People from trampling thereon ; and then repeating the same Method, you will perhaps have used all, or most of the Turff that was in the Way, either on the spot where your Work was doing, or on the grand Area, or Plan of the Building, and in contrivances of this Nature 'tis that a great deal of Money is always sav'd, and on the contrary, generally thrown away by the inconsiderate Carelessness of many, that pretend to Business of this kind, Persons that are always in a Wood, (as it were) and never know or consider, where and how they are to begin or end to the best Advantages.

Having then, by all possible Methods used the best and most useful of your Turff or Swarth ; you are to proceed to fleece off all the

the good Mold you can there find, carrying it either immediately into Heaps or Lestals, or otherwise to your Kitchen Garden, or Quarters and Divisions of Wood, &c. This Care ought by all means to be taken, where your Earth is shallow, or but indifferent; but where your Earth lies naturally very deep, there needs no such Expence, but this with all the coarser Earth may be jumbled together in the making those Terraces, that are design'd round the House; but 'tis very much to be doubted, where one may once in ten times find so happy a Scituation and Soil, as not to require our former Care and Pains.

The Turff thus (supposedly) carried away, we may observe our Level Stakes from two Foot to six Inches high above the natural Ground, and perhaps a considerable deal more. These Stakes are then to be filled up with the Earth, dug out of the Foundations of the Building and the Cellars; and afterwards, if those Terraces are not quite filled up, then we must have Recourse to borrow of our Neighbouring Plats to finish them, and here, as has been before observ'd, it can't possibly do much hurt, tho' by a more judicious Calculation, we might have sav'd some Expence, but our Plinth is fix'd, and we are oblig'd to work up to it in all our Levels. However, as I have already urged, 'tis an Error on the Right Side, and is much

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better than burying the Building too deep.

When your Terraces are every where made good, and brought up within about 2 or 3 Inches of the Plinth by the Cart or Wheel-barrow (which should run forwards and backwards thereon, as much as the Nature of their Rake requires) let it remain a while to sink, if two or three Months, the better ; for Terraces that are rais'd high are apt to sink in Holes, and then the Owner is apt to fret. In this Case, then he ought not to be too hasty, but besides his ramming it well, and carting, wheeling, and trampling it over, he should see it well settled ; while, on the other hand, the lower Quarters of a Parterre, or an open Lawn, or Bowling-green, that is not so rais'd, may be immediately turff'd so, as to use the Turff that otherwise would be spoiled, or lye in the Way.

I have in one of the preceding Chapters shown how to take the mean of any Level, and, by measuring the Depth of every Stake-head, to find what Gauge to go, and this is particularly useful in all these Cases, where (if suppose it be the Lawn) you have 200 Stakes all of different Heights above the natural Ground, by adding those several Heights together, and dividing them by the 200 (more or less) the Number of Stakes it gives, that mean Depth you are to go, and will cause the Issue to be, that you will very near the

the matter have no Stuff either wanting or to spare.

When your Terrace Walks, and your other Divisions, are therefore levell'd in your Par-terre, Court Yards, and Terraces, and so much of it turff'd as you think convenient, on Account of its sinking, thus let it remain a Month or two, only beating on it well, and sometimes rowling it; and be not over-fond of mowing it, till 'tis well settled; for 'tis that that often makes it bare in many Places, especially if the Weather be dry, and hottish. And now let us proceed to the Side Quarters of Wood, leaving the Turffing of the Terrace Walks, 'till a longer Season, and the gravelling the Intervals, (for I suppose nothing but Grass and Gravel, Statues, and Forest Trees in all my Design) still longer, even till the last Thing of all be done in finishing the Garden.

Coming now into the Side Quarters II, &c. already stak'd out (as before) you are to examine the Nature of your Levels, and what Gauge you can best go to make your Stuff hold out. Which done, suppose it six, eight, ten, or twelve Inches Gauge below the Heads of them, strain your Line to that Depth, and while some are digging, or trenching in the Quarters, let others be digging on in the Walks, and throwing thence what good Earth lies there, in order to fill the Inside, and make them so much the deeper.

And in truth, where-ever the Ground is shallow, there we commonly contrive as many Walks and Cabinets as we can, and make them so much the wider, that the Earth that comes thereout, may raise the Quarters to a proportionable thickness. And let these Quarters remain rough, and in Ridges, that the Ground may sweeten, and meliorate, especially, if it be a wet, sour Land, it is better to lose a whole Season in planting, than either to sow, or plant on sour, wet Land, where the Trees will not root, nor the Seed sprout, whatever the hasty and impatient may think of it.

The same Care and Proceedings ought to be in the Quarters K K, &c. in all, which if the Ground is lumpy, heavy, and stiff, or wet, and sour, one ought first to take care to draw off the Water, and then to ridge it for a whole Winter Season, and, if very bad, let it lie fallow all the Summer, only sowing a few turnings; and by the *Michaelmas* following, you may expect your Ground to be in good Order, either for planting, or sowing.

And now we return to the finishing our Terrace Walks, and Parterre, that are not turff'd, and to the gravelling thereof. Gravel indeed must be got where it can, but Turff is, without doubt, to be had nearer at hand, than where 'tis generally got; and I can't but often think with Pleasure on the Frugality of a Gentleman, for whom I lately did some

Business,

Business, who resolving to plow an Up-land Pasture for Corn, that had lain Pasture a great while, fleec'd off all the Turff, and thereby sav'd 40 or 50*l.* and might, had his Design been bigger, sav'd himself 2 or 300*l.* in his Pocket, whilst another Gentleman of no less Character wilfully fleec'd Part of his Meadows for that purpose, which in one Summer came as thick again, and to my certain Computation sav'd 150*l.* But so wedded are all our Gardeners to their old Ways, that no Turff will do but finer Sheep Walk Turff, which very often turns mossie, and is not worth a Farthing, while the luxurious Turff of Pastures grow strong, and maintains an excellent Verdure and Carpet; and, in truth, after a little more Care than ordinary, in mowing and rowling, is much beyond the finest Sheep Walk Turff that can be found.

'Tis already observ'd that Turff ought to cut about two Inches thick, and this especially, if it be cut either very early in Autumn or late at Spring, but great Care ought to be taken that it be cut of an equal thickness, and well joyned in laying, that it have, at least, four Inches of the midling sort of Mould to lay on, and, if it be furring Gravel or Sand, that the Earth be six, eight, or ten Inches thick, and if Part of it be a strong Loamy Clay, 'tis still the better and will maintain its finest and natural Verdure; the want of which is a great Blemish in some

of our Gardeners, that have been carelessly made.

If the Ground be fresh and clear from Weeds, sowing with Hay-Seeds, chose out of such Hay-lofts, where the Hay lyes that comes out of clear Up-land Pastors: But if the Ground be coarse and foul with Weeds, Turfing is much the better way, since the Weeds will come up so fast, and so thick, that it will endanger the Eradication of your young tender Grass, and cost more in weeding and keeping afterwards, than would have turf'd it. The best time to sow Hay-seed is *Michaelmas*, or before, or, indeed all the Month of *September*, when the Husbandman sows his Wheat; and, if *August* be a coolish Month, even then it is not too soon, especially considering that such Seed will not take any harm by lying, they ought to be clear'd and settled; as for Corn, it being a great Fault to sow it, so foul as some do, wherewith grow up all Sorts of Trash, which will inevitably spring up with it, and always look ugly.

The best Earth, either for turfing, or sowing of Hay-seed, is, the Crumbs, as we express it in Gardening, or the next spit or Shovelling of Mould that lies under the upper Turf'd Spit; for, tho' that be sometimes Cloddy, yet by laying it upon the Verges, and Quarters designed for Grass, and exposing it to the Sun and Air for a Fortnight,

or

or three Weeks, the first Rain that comes, it falls to Dust. This is suppos'd to be in the Autumn Season, towards the latter End, the best Time of any for the Designs, and laying out and planting of Gardens.

The next Care is the Gravelling the Walks, that lie betwixt the Quarters, and Divisions of Grafts, out of which I do suppose there is already taken all the good and second Sort of Mould for use; the Bottom of all these Walks should be fill'd with Lime Rubbish, or Coarse Gravel, Flint Stones, or other Rocky Stuff, in order to keep the Weeds from passing through; and this ought to be eight, or ten Inches over, which you may lay six, or eight Inches of fine Gravel, not screen'd, for that spoils it, but best on a round Heap, by which means the great rough Stones will run down on each Side, and those being every now and then rak'd off, the Gravel is fine enough for our purpose: The Fineness of Gravel in some Walks being unpardonable Folly.

When you come, then, to lay your Gravel six Inches thick, or eight, or ten, if plentiful, you are indeed oblig'd in Order to Rake the Walk true and level from all great Dips, as well as little Holes, I say you are here oblig'd to Rake almost all the Stones of your Walk under your Feet; but instead of burying them all, which many Gardeners do, even to a Fault, one ought rather to sprinkle

them back again, gently over the last Length that is Raked, whereby the Walk lies much the firmer, and those coarsest Stones do not add a little thereto.

In the first Volume is hinted a Remark of Walks being made too round, and this is committed in very many Places to such a degree of Folly, that you can't walk with that Ease and Pleasure one ought to do, besides the Roundness takes off a considerable deal from the seeming Width of the Walk. An Inch Crown in five Foot, is what we allow, for our Gravel Walk; so that if the Walk be twenty Foot wide, 'tis higher in the Middle, than on each Side by four Inches, if twenty five, five Inches; if thirty Foot, six Inches, and so on.

After the Walk is laid carefully, or indeed after every Length or Part of it, which is, commonly, about fifteen each, you are carefully to rowl it long-ways, and cross-ways, the Person that does it wearing flat heel'd Shoes; for when little Holes are once made, in a new Walk, 'tis not easy to rowl them up again. But, above all, three or four Water Rowlings are very Essential, to the laying Firm of a Gravel Walk: By Water Rowling, we mean, when it Rains so very fast, that the Walks swim with Water, and, this makes the Gravel bind; and, as soon as dry Weather comes, they bind as hard as Terrace.

The

The best Gravel for binding is a kind of Iron Mould Gravel; or Gravel with a little binding Lime amongst it, and shew, the latter is apt to stick to the Heels of ones Shoes in hot Weather; yet in dry nothing binds better. And this directs to the method, sometimes us'd, of mixing Loam with it, when the Gravel is over Sandy or Sharp, this being cast in Heaps, and well mix'd and blended together, will bind like a Rock; whereas loose Gravel, is as uncomfortable, and uneasy, as any other Fault in a Walk; and 'tis in this we in *England* are always like to exceed, either the *French*, *Dutch*, or *Flemming*.

The properest Time for laying several Walks is in the Month of *March*; and, as it is a Folly to lay Walks for Winter, so it is also to begin sooner in the Spring.

The last that I shall here mention, tho' 'tis a Work that is often done, before either of the other two, is planting or sowing. But of this I have said so much in the first Volume, that I shall not repeat it again, but only say a small matter in Reference to the Design in Hand.

And first, to save Expence, both in the making and keeping, I put in a general Caveat against all Borders, Greens, and Flowers; so that how simple soever these Designs may appear, we only recommend plain Grafs, and Gravel; and the side Terraces, planted

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at about twenty, or twenty five Foot asunder, with *English* Elms; these will quickly make a Shade, and when they begin to be very big, and too thick at that Distance, every Second may be cut down to make Mony of.

But there is another particular that I must not omit, before I quit this Section, which are the boundary Lines, of the Court Yards; because the manner of bounding them round with Walls, is very expensive, and ought to be admitted no where but in the very great Designs of Princes, and for the first Rate Designs, because Walling is very expensive, and, tho' it does add a Beauty and Magnificence to our Seats, yet it takes away the Forrest like and rural Aspect of any Seat.

In the Room of Walls for present Aspect, one would then plant large Hedges of *Dutch* Elm, or any other Hedge, the Groves quick about four Foot, within the design'd Wall Line; for this will make an immediate Line, while the other (which, let be of Holly, or Yew) will be coming up, and make a very durable, as well as beautiful Fence. And this, in short, is all the Fence that ought to be in rural Seats, as well as all the Yew or Holly Hedges; that one would have kept clipt in the whole Design; as for the view forwards, or of one side, let it be, if possible, of some Oaks already grown, or of Elms, and other quick growing Trees, that

that should be advancing with all the speed, that Nature and good Management can direct or force them.

The Lines of Holly, or Yew, being then plac'd directly where the Wall ought to be, and three or four Foot without the Temporary Line of *Dutch Elm*; whilst a low Wall and Grass shall face the Courts quite round, in order to keep Cattle from coming near the House, or otherwise, according to the Method I shall by and by direct in the two following Places. We have our rural and hunting Seat embellish'd in as cheap a manner as possible, so far as relates to the Court Yards, Terrace Walks, Parterre, Lawn, and the adjacent Wood; and, in short, of every thing within the limits of what ought to be mov'd, rowl'd, and kept with a little more than ordinary Care; whilst, at the same Time, we also avoid the Expence of Espalier Hedges in our Woody Scenes; for those, as they are chargeable to plant, so are they also to keep; a continual tinkling of the Sheers being the unavoidable consequence thereof.

The Quarters are design'd to grow up rude, and to have no other cutting but those of a Bill, or Scythe, to lop off those extravagant Boughs that hang over, and intercept the Passage of the Walker; and he is no less amaz'd at looking into the Quarters

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on each side, viewing the Violets, Primroses, &c. in their respective Season, which Espaliers hinder, and, like Prison Walls, stop the happy Prospect into those Quarters, and Divisions, and the natural, but beautiful, Attire of Nature in her greatest Glory. For my part, and I believe I am not singular, I can't see that Beauty in Espalier Hedges as I do in the most natural Coppice, or, at least, so much as is by any means equivalent to the Expence: If they are allow'd any where, it may be in the middle Line, but this I can scarce do, so great an Aversion ought every natural and polite Designer to have to them (if so I dare call them) that not a pair of Garden Sheers shou'd ever be us'd by them.



CHAP. V.

SECTION VI.

Observations on Plate the 37th.

HAT I might proceed with the more Ease and Clearness in laying down the Rules for the general Distribution of a Country *Villa*, or Seat, I have chosen the manner of Pasture, that will be found surveyed and plotted in the 3d Chapter of this Book, Plate the 24th.

In which will be discover'd all that is requir'd to be learn'd in this matter; at least, it will give such a general Idea thereof, that all Gentlemen that have Mannors that lie altogether, may know how to distribute and improve them, tho' they should not be of this Size or Form. To illustrate all, which the better, I shall explain it under two Heads. The first is concerning the Designing: And the next the Method of sowing, planting, and finishing it, by laying out of little Gravel or Sand Walks, that shall have a thorough Correspondence in all the whole Design.

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The first thing, then, in order to the Designing of any Mannor into Works of this kind, is for the Owner to get it surveyed, and to make Observations of all Hedge-Rows, Hills, Pits, Ponds, Woods, and all other remarkable Things within his Design, and also all Remarkables without, as is taught Chapter the 3d, under the Article of surveying this Mannor of Pasture, by this he is furnish'd with all the natural Advantages and Beauty of a Place ; but this is not quite enough yet ; for he ought to walk over it, and view it over and over again, since there are many things that offer in the Nature of a Scituation, that can't be contain'd in or thought of, upon a Plan : Such are the natural Advantages of Levels : Such are proper Places to sink Pits, or to raise Mounts, to view and diversifie the Prospect : Such are, also, proper Places to make Pond Heads, and to dig Ponds, and for the exterior Beauty of a Seat : Such are the Prospects of any noble Vale, Lawn, or surprizing Hills of Wood, and in short, any Prospect that is accounted valuable to these, there ought to be as open a View as possible ; and, were we not to take this Care, one should possibly misplace our Wood, and do many things incongruous to the Nature of the Place we are to work upon : We should perhaps place our Wilderness, or Wood-work, so as to intercept the beautiful Prospect of some Hill or Vale ; and at the same time

by an open large Cut or Glade, bring in the uncomfortable Prospect of barren Earths, or of Fields, that a great Part of the Year lie fallow; whilst, within the Verge of the *Villa*, we may likewise possibly contrive a Pond, where it is impossible, or at least not easy, to make one; these and such like are the Misfortunes that attend a Closet Paper Engineer; and, in Truth, a Painter may as well paint a Face he never saw, as a Designer hit the Nature of a Scituation, in which he is not well vers'd, and whereon he has not spent some Time in order to consider how he may best Improve it.

These being the Preliminaries of our Proceedings, let us suppose, that Plate the thirty sixth, (the method of surveying which has been taught before) was to be laid out in the method we are now teaching, it being about twenty four Acres, a Tract of Ground, that there are few or no Gentlemen of any Estates at all, but what are Masters of lying altogether; furnish'd as they are very often with Hedges, and Hedge-Rows, with some scattering large Oaks, Elm, Beech, or Ash; these we are to be very cheary of, and to take good Care that we do not cut them down, but draw our Lines by, and to them, and under all or most of them, to make Wooden Benches to sit down under them upon.

As a Garden is our first and principal Thought, it should not be a very large one; especially in so small an Estate as twenty Acres; if we allow three, or four for Parterre and Fruit Gardens, 'tis sufficient, and thereabouts is this, which is in the thirty sixth Plate.

It is easy to collect from the Plate, how the whole is dispos'd, and I shall therefore be as brief as I can in the Description of it; reserving more Time and Pains to teach the method of planting, furnishing, and improving it.

The House, I suppose, is either by Nature, or contriv'd and built upon something of an Eminence, so as to admit of two or three Falls or Terraces one under another, this I have elsewhere discours'd largely on, in as much as it gives a beautiful Elevation to a Building, tho' it is low in it self, and, besides, as has been before observ'd, disposes of the Rubbish and other useless coarse Materials in a better and nearer manner, than we can any other Way. So that, so far, the natural Rivulet is fill'd, only allowing an under Ground Passage or Drain for it to pass.

After you are descended three Terraces, you have a plain Parterre of about 200 Foot long, with a circular Basin at the farther End; I say a plain Parterre, and can't but always advise, that in all rural Gardening it should be so; but if any Gentleman would

would rather have Greens and Flowers, he may have recourse to some Designs in this Book, and others. The chief Furniture of this Parterre I suppose to be English Elms, planted upon the top of the Terrace Walk, that goes round it, that lies higher than the Parterre, and upon the same level with the little Fruit Gardens a a a a. And this Parterre we suppose to be sunk something below it's own natural Level, in order to elevate the Building, and to furnish good Earth for those little Fruit Gardens before mention'd, and, with what was of a coarser Nature, to make the Terrace Walks round it: There is no Necessity of raising those Quarters quite as high as the Terrace Walks, it is the more variety, if by easy Slopes (five Foot Horizontal to one Foot Perpendicular) one goes up Hill and down.

And you are to observe here too, that this is what one may properly call but half a Terrace, there being no Slopes but next to the Parterre, and this is of some advantage: Because, first of all, in so small a design, one has not Ground to spare to make Slopes on both Sides, and in the next, it saves both the Expence of making, and keeping, and is, in reality, it self as well as if it had been a whole Terrace, and there had been Slopes on both sides; for that the Beauty of Terrace Slopes is chiefly towards the Parterre, and would not be so much seen to-

wards those little Quarters ; and this I would advise (tho' it may seem of no great Consequence to some) the frugal Gardener to.

It is observable, likewise, that those little Gardens are compass'd about with Trees ; which Trees I suppose to be a Hedge-Row fill'd with Coppice Wood, and Oaks, or other Timber ; and to be about eight or ten Foot wide, or more, if it can well be allow'd. For this makes near as good an Appearance to the House, as if it were all Wood ; when, at the same Time, in reality, there are little Gardens within, and thereby not such alienation of Ground, as a frugal Husbandman would repine at ; for it must be own'd, that Wood-Lands are not of that advantage to a laborious Man, as cultivated Lands are ; and that is the Reason, that in this whole Design, I have sprinkled the Wood gently all over the Estate, and mix'd Lawns, Enclosures of Grafs, and Corn Fields therewith, and this, as it is the most essential Beauty of an Estate, so likewise it looks more rural, by it there is no great Alienation of Land, for the Plough and Pasture ; but those Fields and Enclosures that lie between them are shelter'd, and kept warm, and Posterity may at some time or other be very thankful for it, and the Owner himself will soon reap the Benefit.

But especially this way will screen our little Fruit Gardens from Blasts, and, if the Wood

Wood be not suffer'd to grow too thick, will admit of Sun enough for the Maturation of Dwarf Fruit, Strawberries, Rasberries, &c. which we suppose to be planted in Beds in those little Gardens.

In the next Place we observe, that the length of the middle Walk is near five hundred Yards, and looks as if it were all in the Garden there being little Espalier Gates, that open into all the little Meanders that run thro' the Estate, or indeed, if there were none, there would be no danger, since there is a general Correspondence quite through the whole 24 Acres, so that no Cattle that feed there can come near the House, being penn'd in those Parts on flat Enclosures, wherein they are put to feed.

This middle Walk will, I doubt not, be lik'd by every impartial Person that sees it on Paper, it being as long as the middle Line is in very large Gardens, and, if it be well laid, will be altogether as handsome. And to diversifie the going down it, I have plac'd Plattoons or Polettoons of Trees, and alway suppose the Coppice Wood on each Side to be very high, or very low; so that a Gentleman, that walks down that Walk, may at those Intervals have open Glances into the little Corn Fields, that lie on each side. And this rule should be observ'd in all Walks and Designs, whether they are bounded with Espalier, or otherwise;

for to walk in a long Walk, and to have the sides very high and close, 'tis like walking in a solitary Lane, when one cannot see any thing on each side, but the Eye is bounded to it's discontent, whilst, on the other Hand, a Traveller comes to a low Place or Gapp in a Hedge, he is pleas'd, and apt to stop, and look into the adjacent Field, with Pleasure, and Satisfaction; and 'tis thus observing the rules of Nature, tho' but mean in Appearance at first sight, that our Designs may very much be better'd.

Having thus giving some account of the Parterre, middle Walk, &c. we come to the Boundary of the interior Part of our Garden, which is easily discover'd to be an Hexagon in Fortification Work, for the digging of the Ditch makes the Terrace in the Inside, and helps to raise the Banks on the outside; so as to admit other Slopes, being what they call Fortification the cover'd way. There is some Art and Judgment in staking out this Ditch, and Terraces; not so much in respect to the Lines, but so as that we don't go so deep as to have too much Stuff lie on our Hands; or otherwise, that we dare not pitch our Levels so high, as to want Earth to make good our Terrace.

The Level of the River, ought indeed to determine the Surface of our Water in the Ditch, but that should not force us to any Inconvenience in raising the Terrace. In such

such a Case one would rather have a Sluice to let Water in, next the River, and another to let it out at some other Place, where it will have a Current to run off, if there be occasion to draw it at any time.

The Fish Ponds in the Fishery are supplied by the same means, with Water let out of the Ditch, or River; but if the Nature of the Ground will not allow to carry the Surface of them so high, or near so high, as the River, it may be done by means of a close Sluice, as is above hinted; since, perhaps, both in the Ditch, and Fishery, if the Owner were to carry it up to the level of the River, it would cost him a round Sum of Money, and his Design be never the better. And, if he should be any ways annoy'd by Floods, which is very often the Case, he is by this means secure, having his River well bank'd on each Side, to keep it from overflowing his Lands.

The Profile, and Methods of making this Ditch, so as to hold Water; will be found in the Chapter concerning Water, at the latter end of this Volume; so that I hast to the farther Description of this Plate, and particularly to the exterior Parts of my Design. After having observ'd that our Terrace Walk on both sides the Water, is design'd to be planted with *English Elms* for shade, or, if any is so pleas'd, with Standard Yews, of which there are a great many at

Brompton Park. But this could not so well be made plain on the Draught, the Scale is so small. And the Reader will, 'tis hoped, not be so severe as to expect on that account, that any particular, whether it be Parterre, Terrace Walk, or whatever it be, should bear all its exact Proportions in this, or any other, of these rural Sketches.

But, to proceed, I have plac'd the bare survey of this Mannor of *Paston* (viz. Chap. 3^d Plate the 24th) on one side, and the Improvements on the other; and have also by a prick'd Line shew'd the boundary how the interior Parts of my Design, and how they butt and found with, and correspond to the exterior; and have also by these prick'd lines shown what Improvements are made to those exterior Lines and Hedges; and so I suppose every thing relating to the designing Part of this Work, to be thoroughly understood.

It is visible to any, that please to inspect the Skeleton Part of the 36th Plate, that I have made use of all the Old Hedges, and that none are cut down, but those that stand in the direct Lines of the Parterre, and middle Walk, which could by no means be avoided, but all the rest remain as they were before, and are only cut thro', that the Intersections of one Walk with another, in order to make the Communication easy to

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one another, or, which is plainer, to make an exact Correspondence and Harmony thro' the whole *Villa*, Mannor, or Estate, call it which you will.

We come now to the planting, and setting of this Estate, and the Methods to be taken therein.

As for the setting out the Parterre, and other Parts of the inside of the Garden, I refer to the Plate foregoing, which, tho' not of the same kind as this, is yet more difficult; and he that can set out that, may very easily set out any, and this I have purposely omitted in this Place; not only on the account of its being treated of in the other, but that I might have the more room to explain, how the exterior Parts of all rural Plantations are to be manag'd.

It is very happy for such Gentlemen, as find little Hedge-Rows, Coppices, and Lawns, mix'd one amongst another by Nature; for there they may easily cut a Walk, of about six, or eight Foot wide, just through the middle of it; and, as there is always a Terrace ready made on one side of them, so 'tis easy having their materials at their Fingers Ends, to make another; and so to fence themselves in on both sides; as not only to keep out the Cattle, that feed in the Lawns, and Enclosures, that lie between them, within their own Bounds; but also, from coming into, and cropping

the Hedge-Rows, and spoiling the Wood, and Walk ; and these Hedge-Rows being mix'd with Primroses, Violets, and such natural sweet, and pleasant Flowers ; the Walks that lead through afford as much Pleasure as (nay I may venture to say more than) the most elaborate, fine Garden.

The first attempt of this kind, I ever saw, and which has in a great measure prompted on these rural thoughts, was at the Seat of a very great Person of this Age ; I mean his Grace the Duke of *Shrewsbury's*, which in *Oxfordshire* ; is truly delightful, rural, easy, and pleasant ; for, whatever some may think of Magnificence, there is an inexpressible Pleasure in these Natural, Twinings, and private Walks to a quiet, thoughtful, studious Mind.

And that Gentleman whoever he shall be, that has Extent enough of this kind, will I dare say, not envy the most Magnificent Gardens in this World, set off as they may be, with the utmost Art, and Expence.

To go on with our directions, when the Walk is cut out about eight Foot wide, in the middle of any such Hedge-Row, and the Hedge in good order on each side, so as to hinder Cattle from spoiling the Work. The Gardener should then lay his Walk with fine Gravel, Sand, or Cockle-shells ; the Gravel, if he has any, about half a Foot deep ;

deep; and let him likewise, either sow a Line of Privet Berries on each side, to make a Line, or, if it goes through a Field of Kitchen Stuff, an edging of Parsley looks very well, and will be very good Food for your Hares, &c. but the quickest and easiest Edging, or Verge is of Turff, about nine Inches, or a Foot wide, laid sloping, and true; and this you may let grow to what height you please, but not to let it seed. This should likewise be done before you lay your Gravel; which will be handsomly bounded by this List of Green.

I need but just mention that at all the Intersections of your Walks shou'd be made a Fountain, or a little Garden, of such a Figure as you will find, in this or any other Book, or any Gardener can contrive; and should be set round with little Nitches, Seats, and Benches; this I could not so well express on Paper, the Scales being so small; but this may be easily done, and these little Gardens will look as well a Mile or two off, as just by the House (where-ever there is such an extent) and will, in truth, be much more surprizing, the farther they are from the Place where one would expect to find Gardens.

What has been said, then, is, supposing to have Wood ready grown to our Hands, but there are a great many good Seats have little or none; so that, we are in the next Place,

Place, to contrive how to raise it; and, which is of the greatest Importance of all, to make it appear at once as large as one can; for the greatest Discouragement most People meet with, is, that a great while they must live in Expectation, when they begin to raise Wood; especially, if it be from Seed, which is what in this Case must be done.

When you come, therefore, into an Estate, that is bare of Wood, and there are only single Hedges that cross and divide the Enclosures, measure out either of one side the Hedge, or the other, twenty five Foot, or, if you will, thirty Foot; for I have not been exact as to that, in any of my Designs, (the Scale being small) and, having a Hedge or Fence on one side, you must begin to throw up another on the other side; and having plough'd your Land (for there is no end of digging) and let it lie fallow to sweeten, and to break the Clods, and be also well harrow'd, the Walk being prepared for Gravel, or Sand by throwing there out with a Spade, as soon as the Mast in the Wood is ripe, begin to sow, and to be sure sow thick enough, the Mast costs little; and, if they come up too thick, 'tis no harder a matter to thin them, than 'tis to thin Turnips. And you are oblig'd to mow the Ground the next Year, however, to clear the Weeds from your young Seedlings; this

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is what should first of all be done, in all those new Walks, and Meanders you make in your Estate. The more Enclosures you make, the more useful is your Land, and, tho' there is some Land taken away, yet, I may venture to say, the value of your Estate in general, won't sink, but rather encr ease, and Posterity will reap great Advantage of your sowing, and planting, your Hedge-Rows after this manner; whilst any Man in the compass, of his own Age, may see great Improvements.

I have, in the first Volume, laid down particular Directions, as to the sowing, and raising of Wood, by all the methods now in use with us, which I need not repeat. But shall finish this Section, with directing, how your Hedge shall appear (in as little time as possible) full, handsome, and be of use for Shade, and Walking in.

And here we must observe, that the chief Views of this *Villa*, or Farm, and of the several Hedge-Rows and Avenues, that run every way through, and divide it into Par cels, are from the Garden; at which Place, were we to trust entirely to sowing, and planting of Sets, it would look but indiffe rent for many Years; we should therefore, of the Roots and Sets, we get out of the woves, or that we either raise, or buy, plant the beginning of those Hedge-Rows quite round, or where-ever they bound, and butt up,

up, upon the Limits of the interior Parts of our Design ; and as they go off still the farther, they may be the thinner ; this the Eye upon the spot is the best Judge of, and the Person that directs the Planting, ought to stand upon one of the Bastions (as it is here in this Design) and the Men that Plant are to move themselves backward, till they can discover, whether they are far enough, or not ; that is, in plain Terms, till he, the said Director of the Planting, can see, that if they move any farther, there will be a Gapp, and the Nakedness of their Hedge-Row discover'd. And these Plants should be as bushy as you can get them ; which I think is not hard to be got, in Country Coppices, and by raising Hills about them, as Mr. *Chaplain's* Method was, and as is mention'd in the first Volume ; you may plant Bushes four, five, six, or seven Foot high, and need never be at the Ex-pence of watering them. And thus much for the thick'ning the Lines, of the Hedge-Rows, that run from the Garden, thro' the whole Farm, and Estate.

The next Care, is to procure Shade with as much Speed as possible ; which is, by planting Standards, at thirty or forty Foot asunder, and about four Foot within the Line, or from the Edge of the Gravel, or Sand Walk ; by which means, there will be sixteen Foot wide, (if the Walk be eight Foot,) which is

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as near as they can be, and will, in a few Years, make a Shade; the thirty or forty Foot, I have been speaking of, is, for the sake of Shade, that the Gentleman that walks along, may not be too long, nor too much, expos'd to the Sun; for, as for the View from the Garden, if, they were farther, they would do as well; and it is an Observation of all frugal Planters, in respect to a View from the End of any Walk. You may plant them, one, two, or three hundred Foot asunder, and they shew full enough from the Place of your Station. And this I particularly recommend to the Observation of all my Readers, in as much, as that in many Cases, Half the Expence, I might say, five parts in six of what is generally laid out in Planting will do.

And this stands good, as well in the Dwarfs and Bushes, I spoke of before, as in the Standards now: And the Reader may from hence, gather how few of each Sort in respect of View, will plant a Walk of a quarter of a Mile long, even, not above thirty Foot of each, as I have often try'd on the Ground; and, the narrower the Walk, the better. And thus may a Planter have all the Walks extending from the interior Parts of his Design plow'd, sow'd, and planted, at the Expence of about 10*l.* or 15*l.* per Acre: And he has at the same time Lawns, and Corn-fields lying between, that add much to the natural

natural Beauty of his Seat ; and are always bringing him in Money, to pay the Expence, by which means, the *Utile*, is mix'd with the *Dulce* in (I hope) a very agreeable manner.

But, to re-assume, the Thread of our Discourse, the Trees, that are the most proper at present, and will be of as much Advantage to futurity as any, are the *English Elm* ; that, being a very hospitable Plant, and any thing will grow under it ; it will, soon make a Shade, and will answer the Expectation of the Planter, the best of any Tree, I can name. Tho' one would, in this case, get any Trees out of the Woods, that will move with any prospect of Success, to fill up our rural Plantations.

To sum up all, the Advantage to be reap'd from this rural Way of Gardening, and of this little Scheme, in particular, we have here, tho' it be a plain mean Scituation, twenty four Acres of Ground altogether ; and might as well, be ten times the Quantity, where the Owner may Work round it, and a-cross it, in his Night Gown, and Slippers ; and visit all his Affairs, either late at Night, or early in the Morning ; without either Dirt ; or Dew. And seeing those are the chief times, either for Busines or Pleasure, in the whole Day, I can't, but think that these imperfect Hints will be very acceptable to the World,

as they will be also more largely handled in the ensuing Plate.

In the mean time, the Owner may walk four or five Miles in this little Scheme, without going over one Walk twice, and by little Gardens, Seats, and other Ornaments; he has as great a Pleasure, as one that enjoys the noblest of Gardens. His Expence in making, has been but little, and his Expence in keeping is yet less; since neither, the Scythe, nor Shears, and nothing but the Role, scarce ever comes here.

And, in Answer to what may be objected, by the lazy Drone, (*viz.*) its Slowness, in coming to Perfection, I must needs give it, as my Thoughts, to be of no weight; for, on the contrary, I always love to see a young Coppice coming up under-hand more than one that is larger; the Beauty of all Coppice Wood being, in my Opinion the next two, or three Years after they are fill'd, and before the young Wood grows up too high.

To finish this Section, the Gardener must, for a Year or two, after these Hedge-Rows are sow'd, keep them houghed, as he does Turnips; and he may, also, sow Turnips amongst them, to creep down the Weeds, which he may pull up, and throw over the Hedge to his Sheep.

He ought, also, to Plant, in this Hedge-Row, good Store of Fil-berts, Hazlenuts, Damascens, and all other sort of coarse Fruit, and

and such Wood-berries, as will entice the Birds: He may also Plant, Crabb and Pear-stocks, and graft them (the Apples, because of Hares) two or three Foot above the Ground, and he may in short, makes his whole Estate, as one large Garden.

The greatest Expence that can be foreseen in this whole Method, is in the infinite Length, and number of Walks; and 'tis for this and Water I sacrifice all the other Beauty of our common and extensive Way of Gardening. Grant me but these, and take all the rest, but the Walks being but narrow, and be they either Gravel or Shells, or even Sand, and barren Earth, it answers my purpose, provided they be not laid too round or Hog-back'd, and the Stones be not so rough as they are in the Walks of St. James's Park, which is done by the carelessness of those that first laid them, and by the People that are always kicking them up; those kind of Walks are the most preferable in this, as well as other Places, are such as lie near a Level, and that are smooth, such as those that are made of Earth, or Sand, or fine Gravel.

But, I had almost forgot, to tell that Serpentine Lines, do not always go thro' enclos'd Hedge Rows, they having for the most part only Standards for Shade, as you go round in them, and Dwarf, Bushy, Fil-berts, &c. between, and the great Cattle are kept from coming

coming into the Walk by a Ditch, or Stop and Rail, such, tho' not so very strong and of so good Timber, as encompasses *Bloomsbury Square*.

And tho' Sheep would be apt to creep under the Rails, and so get into the Walks, yet a good Ditch will frighten them ; and if they did get in, they are harmless enough to be admitted.

This open Way of Planting ought also to be sometimes used in long Walks ; and we ought to take all the Opportunities we can to open Glances into the adjacent Corn-fields and Enclosures, for the Reasons I have spoke to in the Paragraph about the middle Walk of this Design ; and this is all I shall speak to in this Section.



C H A P. VI.

S E C T I O N VII.

Observations on Plate the 37th.

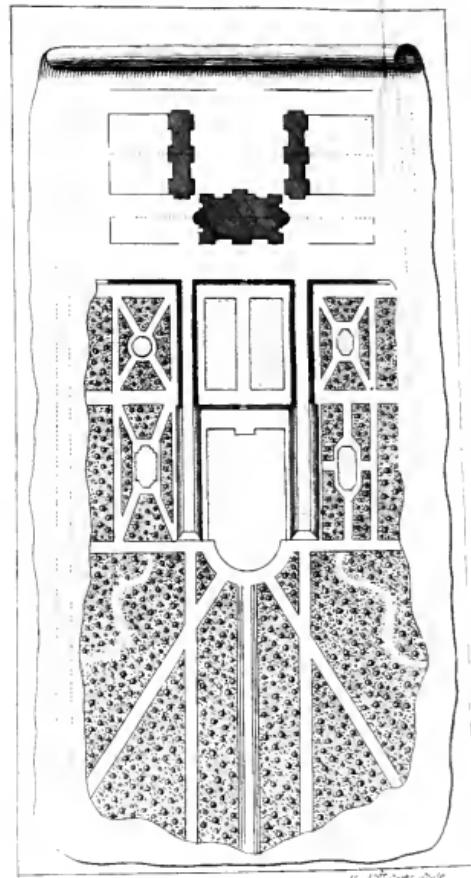
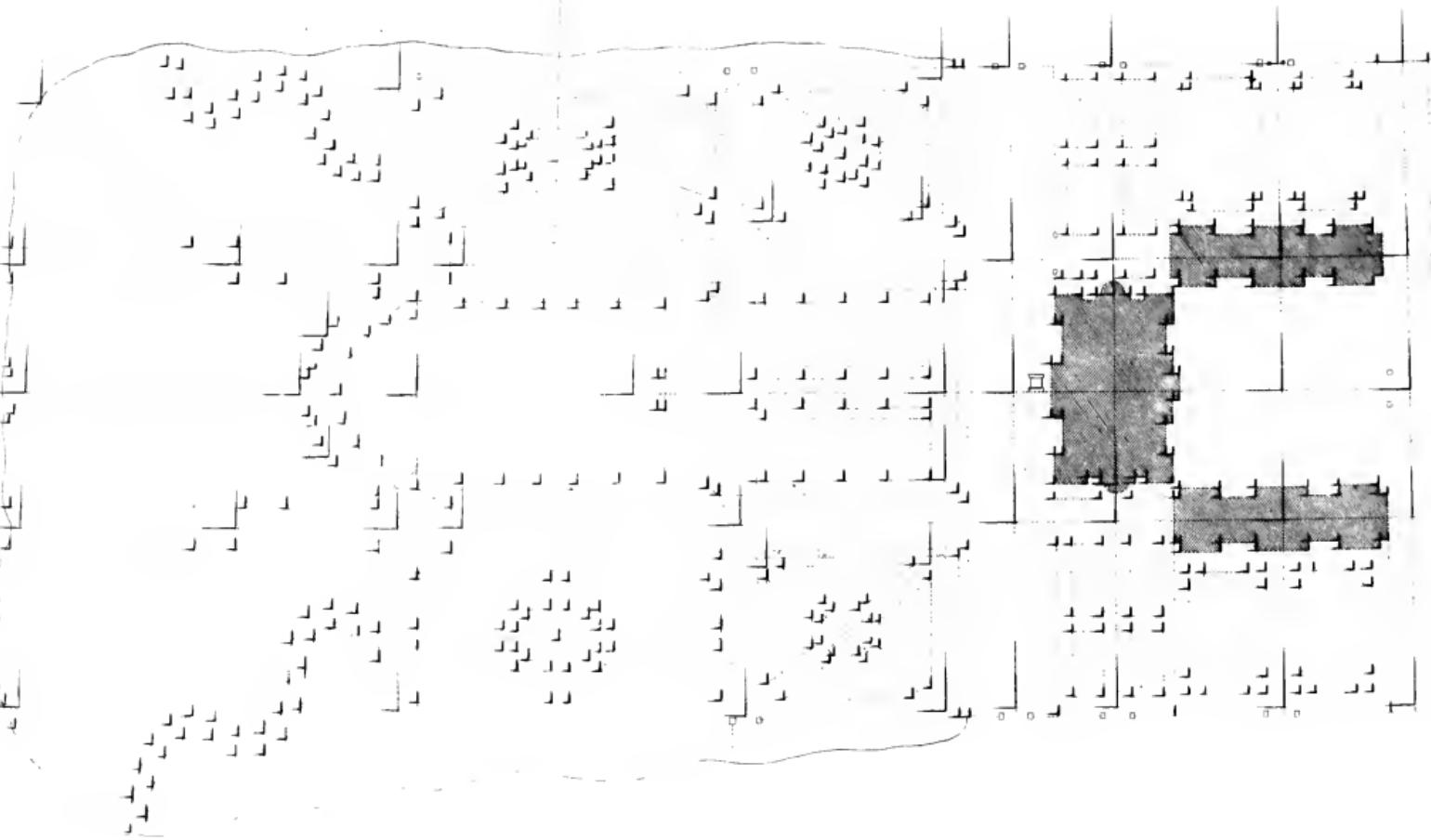
THE next Plate contains an entire Level Piece of Ground, and a Rivulet running round the same, which River Bounds in all the interior Part of the Garden, and likewise the pleasant Wood on the outside, and at the End by the Canal which forms a natural.

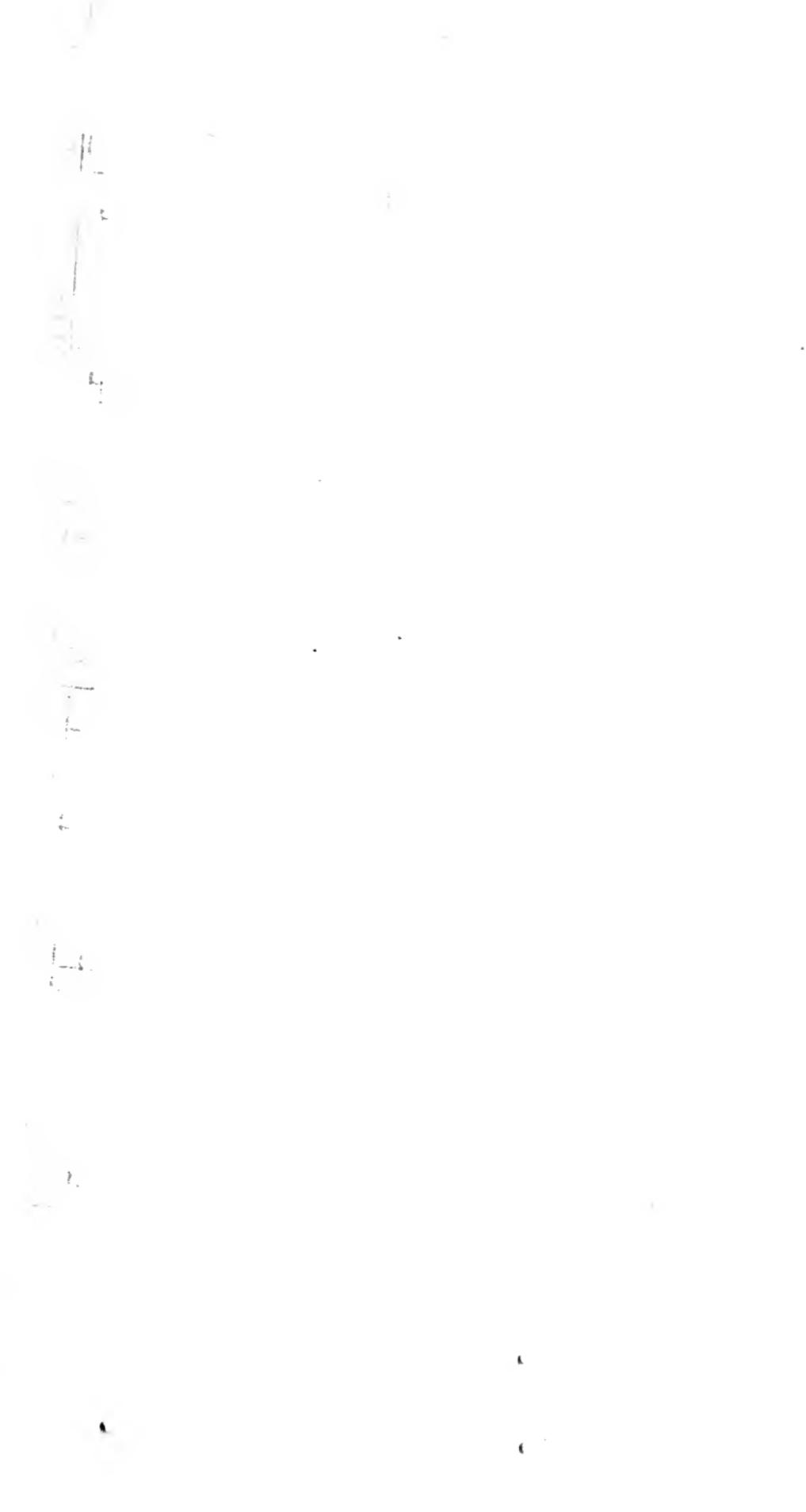
The main Body of the House is but 150 Foot wide ; for which Reason, we suppose a long Gallery, or Lodgings at each End joining to it.

As for the Gardens and Estates adjoining to it, the Draught explains it, so that I need add little on that Subject.

The Ponds on the Right are a supposed Fishery, and the Grounds on the Left for Padducks, the passing of the little Walks thro' them, makes them as pleasant as any Garden ; and here 'tis we suppose, that all Trees, Bushes, &c. are kept a little trimm'd, I mean as to the extraordinary Luxury of them.

The





The Woods on the other Side the Canal, tho' they are not in the Garden, will, however, appear as a Part of it, and need little Expence in keeping, and there may be the Pheasant House, being amongst the Corn-fields. B is the *Villa*, or Farm-house, which one would always place at some Distance from the main House, and the Walks and Avenues being kept neat and well, the Owner will not I am perswaded think it too far to go to it. In short, what must be the Beauty of this, and all other Designs of this kind; here is a thorough Communication thro' the whole Estate, without Styles, Gates, or any other Inconveniences; and, what keep the Prospect open and undetermin'd, are the Rivulets or Rills of Water, which one would always make use of, in as much as no Cattle care to go thro' them out of their own Bounds, nor even Deer except they be forc'd. C is the Potagery, or Kitchen Garden, which ought to be as near the *Villa* as possible.



C H A P. VII.

S E C T I O N . V I I I .

Observations on Plate the 38th.

E are now come to the last of our Scituations and Designs; intended to be made use of in this Book; a Scituation attended with such infinite Varieties of Nature, and accompanied with some of Art, that any one Person must rather wish and hope, than really expect, to find them in any one Place.

But, as some of them are to be found in one Seat, and some in another, and that in this Series of Discourse, we are obliged to bring in all that possibly we can, for the Illustration of our Subject, we shall henceforward suppose it as a Scituation actually in Being, and not an imaginary one.

To begin at the House which stands near the Brow of a Hill, you are in some measure environed with a beautiful Valley of about 200 Foot wide, which, in Consideration, it is no bigger, I suppose to be turn'd into a Lake; how this may sound in the Ears of the frugal, is not hard to determine; but that it is in it self the noblest of any thing in Nature,

ture, I presume no Body will deny ; besides, it being no more than 200 Foot wide, there is nothing in it that is Monstrous, and by making a Head out of the View of the Building, not much Expence, since a Head of Earth and Ballast Gravel, or any ponderous Materials, will effect it very easily.

Not to say much of the Court Yards, or the Circular Parade, or the Diagonal Descent ; how easy 'tis in such Cases to make the ascent or coming up to the House, let us turn to the principal Part of this Design, and go out of the South Door of our Building into the Garden, where the extent and variety thereof will not be easily discover'd.

You first come out on a Terrace 100 Foot wide, and above 700 Foot long planted, if you please, detach'd from the Building (as has been heretofore spoke, in the Chapter concerning Terrace Walks) with *English* Elms, as we do also suppose the side Terraces to be, tho' it could not be shown, by so small a Scale as this is.

If you turn to the left, as soon as you come out of the Door, you will discover a Wood on a rising Hill, the thought of which any Body that has seen my Lord *Carlisle's* Wood at *Castle-howard*, will easily discern is taken from thence ; only, as the middle there is drawn to the Terrace before the House, this is the grand Terrace on the

Garden Front, which is much better, can it be procured ; but 'tis easy to be observ'd, it could not there, for that the Ground fell away too much on the North, and the Building could not be plac'd, on that account, further Northwards, than it is.

This rising Wood may easily be imagin'd to afford some of the greatest Beauties in Nature, both from the House, and as you ascend the Hill ; and when you are up, gives such a Noble Prospect of all that lies round one, that it very much exceeds, all that can be imagin'd or thought of, in common Gardening.

But, to come to the Design, and the Method of ending, it is to be observ'd, there is a little Walk, that leads quite round on the brow of the Hill, which I call a Natural Walk, or Terrace, and which I do always lay down as a standing Rule, in all sloping Hills ; the under Wood is all suppos'd to be clear'd away, and only the Timber Trees left ; for this gives an easy open View to the Walker, and he sees, with the utmost Pleasure, all distant Prospects, and particularly, that delightful Valley, with all its turnings, and windings, that lies under, which is always an adjunct to such rising Hills.

The Distribution and Figure of this Wood is by no means Regular ; were it so, there would be an end of all its Beauty ; but, walking round it you have, all the Natural View ; for the inside is so irregular, that 'tis

not

not easy to discover or plott it down, and is in truth cut out as Nature has allow'd it ; for where-ever there was an open Place, 'tis there Nature directs, either a Lawn, or a Walk ; by which means the Coppice Wood, is more full of small Branches and Leaves, than it would be, if the Walks were cut out of a Thicket, and affords a Pleasure greater than I am well able to express ; and here is no Regularity observ'd, but in that rising Lawn coming from the Grand Terrace, planted promiscuously on each side, and that open Lawn or Figure above, where we suppose to be Seats, and Statutes. But there we learn all the common Form, and by no means cut it out into a Star, or any Mathematical Figure ; but follow Nature, and where-ever we find natural Openings and Glades, there, to make our Lawns and Walks, be they either strait, or Serpentine, still humouring, and not straining, the Place by Art. A Walk that breaks off from one another at 20 degrees, is as Beautiful as at the Rectangle at 30, and a Serpentine Line that follows no Center, but Nature ; as Convenient as, nay more, than, the most exactly Concentrick Figure, that the Line or Compass can describe.

From this short View of the Method of cutting out, and ordering, and the Beauties that attend our Natural Wood ; we might proceed to think of it in respect of its cheapness, both in making and keeping ; but this

will fall in a more general and proper Place, by and by ; and, for that Reason, we return to the Front being in some measure satisfy'd, with what has but shortly hinted at, in this Particular.

And from the Center of this Front, review a Walk of above 1000 Yards long, and a Canal at the End, of an indeterminate Length ; this, as to the general, but more particularly this method of a plain Parterre ? in the first division, and the Lawn or Bowling-green, that lies in the second, bounded on each side by a Terrace, planted with *English Elm* ; notwithstanding its plainness, can't but have a noble effect on the Eye. I might in this Place have drawn more Avenues to the House ; but that I take to be one way of spoiling the varieties of any Situation, since, by that means, all the Beauty thereof is seen at once, and there's an End.

But as you proceed down this middle Line, there is something New and Noble, at every Center ; as you pass at the upper End of the first division, with a large Statue, or Obelisk on the Hill, on the Right a cross the Valley, while the other is bounded, shut with Wood. At the extremity of the Lawn, at, or near the Center the strikes the sweep : You view not only the cross Walk it self, but the middle ; and two Diagonal Walks, of thirty, or forty Foot wide, that carries the Eye above 4000 Foot, quite a cross the Valleys up the rising

rising Hills on each side, up to a large Center, which, if the View be there stopp'd, may be placed, either a large Statue, Banqueting House, Obelisk, or what the Designer pleases ; And, if there be Plenty of Water, a Cascade rowling down, and facing the Person that looks thereon, at that great Distance. If it be thought that forty Foot is too little, for so long a View, I shall not contest it, but only observe, that the narrower a Walk is, the farther of appear, any object, that is plac'd at the End of it ; and this I take to be of no small account, especially, if the Walk be not too narrow a Walk, of sixty Foot wide, as the middle Walk is, will very well admit of 3000 Foot long (especially when there is a Valley, that opens wider at the End of it) and for those cross Walks 4000 Foot long, to forty Foot wide, is not an ill Proportion.

To come nearer the Center of our Work, it is to be observ'd, that the Termination, of what may be properly call'd, the enclosed Garden Ends with this great Basin, at the sides whereof there are little Gates, that open by the sides of the Fountain ; which Gates do by no means obstru&t the general View, and are of themselves sufficient to keep all Cattle from entring into this Part of the Garden, that ought to be kept from their tramplings ; and this is the largest Design, that the greatest of our Country Seats seem

seem to require to be in the inside of the Garden, it being twenty Acres by this Scale. Altho', it may by altering the Scale, be made to serve indifferently for a design of the same Sort of eighteen, sixteen, and fourteen Acres, but scarce less.

All the rest of the side Walks, may be shut up, after the same Manner. The truth of it is, the Owner ought to have as few Gates and Styles, as possible; they being besides the Expence a Trouble and Inconvenience in a great Estate.

Before I quit the interior Part of my Design, I ought to mind my Reader, that the smallness of the Scale would not admit to make much Work in the inside of the Wood Quarters, neither, indeed, does there require much. But, if any Gentleman thinks, that the Quarters are too large, and will admit of more; there are some Designs in the foregoing Part of this Book, that will suit it; many may be collected out of Mr. *James's* Book; and still more may be contriv'd by our Skilful and Ingenious Draughts-men, or Planometrians; it is much more to my purpose, that I pursue the main intent of this Design, and speak more largely to the exterior Part of this Design; which, I may venture to affirm, will afford as much Variety and Speculation, as any thing yet design'd, in the Way of Gardening.

Of all the Lines that a Designer ought to use,

use in natural Gard'ning, the loose Serpentine Line seem to be the most entertaining ; because thereby the Owner does not see all his business at once, but is insensibly led from one Place to another, and from a Lawn to a Hill, or a Dale, which he is not apt to perceive, till he is just upon it ; this I have made great use of ; but not so much to be offensive, by this means. The Person that Walks over this Estate in a Corn field, sometimes in a little Thicket of Wood, and sometimes in a plain twirling about, and passing thro' all these Beauties, which surprizingly succeed each other, while at the same time those Enclosures, and little Fields of Corn, Pasture, &c. are in the middle, and divided thereby.

But this Winding, and twisting of the Lines, both upon the main Levels, and on the brows of the Hill, has an unspeakable effect on these Valleys, and rising Theatres of Wood on each side, involv'd, as they will appear one with another.

There is certainly nothing, either in Nature, or Art, that excels such Designs and Improvements ; and must be esteem'd at least a faint Essay, and Copy of the sublime Thoughts of ancient and modern Poets on this Subject ; How sweetly is *Virgil's* Muse delighted, with a winding Valley, and a lofty Hill. And when delighted amidst the Croud of rural and happy Thoughts, even till he was quite satiated, makes these his *Asylon,*

glori, and last Retreat! How sweet would *Boileau*, or a *Dryden*, have turned their Song! And how wou'd *Cowley* have been delighted, in such rural Scenes, as a Design of this kind would have presented him with.

But to take too much delight here, how pleasant soever the thoughts may be, 'tis in these direct Circular and Serpentine Lines that the Mind is pleasingly carried forwards and backwards; and while in one Place a Valley presents it self; then likewise Hills, Basins of Water, and Fish Ponds, and little Glades cut down to shew for Cascades, if Plenty of Water.

In short, the whole Design is easier seen, by this imperfect Draft of it, than express'd, and will, besides its use, I hope, still encrease upon the Minds of those, that please to Peruse it, and put it into Practise.

It is easy to see, that all the Enclosures in the upper Part lie encompassed by those Serpentine Walks; and so likewise is the Meadow in the Bottom, where a Walk of Gravel is carried round at the bottom of the Hill, and little Ditches of about six Foot wide, to carry off the back Waters, and to bring round a Part of the main Stream, which runs in the middle. And it is a doubtful Point, whether in such a Case one would not fill up the River in the middle, and divide the Stream on each side, for the fencing in of the Meadow, from Cattle that feed on the Hill, and for saving

ving that tract of Ground, that is left there ; besides the Stream running exactly under the Hill, is very beautiful and conformable to the Songs, of the ancient, and best of our modern Poets. To this we may add, that it is always shady and cool in one side or other, even in the middle of the hottest Sultry Day.

And these Ditches will likewise divide the Meadows, into so many Parts and Lots, that it will be also useful in the keeping, and feeding of Cattle separately, and will be no disadvantage to the Grafts, design'd for Hay.

If any Body is so frugal, as to object, that the Walks and Coppices in this Design take up a great deal of Ground, it cannot be denied that there is something of Truth in it ; but not so much, as appears by this Draught, the Scale whereof is so small, that the Walks and Hedge-Rows could not be shown, but by making them wider than in Reality they need to be ; and this considerably lessens the Quantity of Land in the Inside ; for, whereas these Walks and Hedge-Rows are most of them forty or fifty Foot wide, there is no Occasion to have any Hedge-Row, Walk and all, above 24 Foot, (*viz.*) eight the Walk, and eight the Hedge-Row, on each side ; and as for others, where there is no Hedge-Row, but only Lines of Trees, and Dwarf Bushes between them

110 Of rural and extensive Gardening.

them (as has been already described) to maintain the Hedge Line ; there sixteen Foot is a sufficient Width between Hedge and Hedge, or Stoup and Rail, and Stoup and Rail, (viz.) eight Foot Walk, and four Foot on each side, for the Verge, and Trees ; but this is directed, already, as is also the more particular method of laying out, and dividing this Estate into rural and extensive Garden.

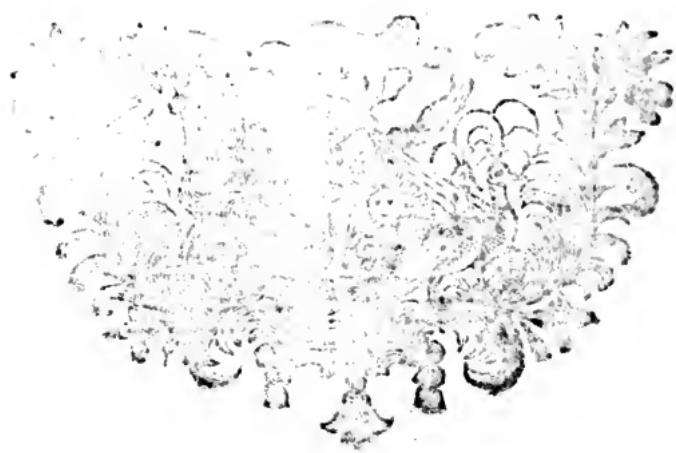
And by it is seen how much Profit and Pleasure may be mix'd together ; and that this Design of above 300 Acres may be made as pleasant as, or pleasanter than any.

And, however, there are many of my Profession, that will, I am very well aware, Carp and Quarrel with this Book, because they will, I suppose, think that the Grift, as it is commonly call'd, will fall short at their Mill, in the vending and disposing of their Trees, and Plants ; yet I hope the Publick will Reap some Benefit and Pleasure hereby. The Ancient *Villas* and Possessions of the Greeks and Romans were undoubtedly of this kind, in which they spent the happiest of their Moments, and Reap'd not a little Advantage thereby ; in those early Days of Innocence and Antique Virtue.

By this every one may discover how happy

happy he may make himself, in his rural *Villa*, thus order'd, and dispos'd; if to this be likewise added the Profit (as well as Pleasure) that accrues to him thereby. All which will come in to be consider'd at the latter End of this Volume.







CHAP. VIII.

SECTION IX.

A Description of a beautiful Rural Garden.

Before I quit my agreeable and entertaining Subject of Designs in general, I cannot omit giving a particular Description of a *Rural Garden*, which tho' not equally extensive, yet perhaps equally beautiful to most we have in *England*, notwithstanding the happy Possessor bears no higher Character than that of a private Gentleman. *

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* *Mr. Blathwayt's Gardens at Durham near the Bath in Gloucestershire.*

I have been a great many Pages in treating of Situations, which a Man would always willingly chuse, tho' it is rarely in his Power : I therefore hope this Description will be the more acceptable, as it contains matter of Fact, and is no way chimerical ; and when 'tis consider'd, that Nature has a greater Share in the Beauties I am proceeding to, than Art ; not but very considerable Sums have been expended to bring these Gardens to that Perfection which I some Years since saw them in, when my Affairs requir'd my Attendance on a Person of the first Rank at the *Bath.*

To describe the Situation of the Seat in general is a Task of Difficulty ; the best Account I can give of it in a few Words, is, that 'tis a beautiful Irregularity, here a Dale, there a Mount, here a winding Valley, there a purling Stream, &c. And indeed the Quantity of Water which abounds here, and plentifully supplies the Water-works, is found Fault with by some Persons as an Annoyance to the House, seated low ; but without considering the many large and most exquisite contriv'd Drains erected for its Conveyance to distant Ponds.

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Some injudicious Persons likewise make an Exception to the Situation of this Seat, not only for its being low and moist; but on Account of its being surrounded on one Side with Hills, so as not to be discern'd 'till you come just upon it; what ever Fault this may be in the Esteem of the Generality of Mankind, I shall not pretend to determine; but I have this to offer in its Favour, that on your Approach to the House from the Hills, you are at once entertain'd with an infinite Variety of beautiful Prospects, the surprizing Pleasure whereof would have been in a great Measure lost by a remote anticipating View. And from the other Side of the House, a fine Vale of a considerable Extent is discover'd even from the first Floor, notwithstanding its being low with Respect to the Northern Side, encompass'd with aspiring Mounts.

But as it is not my Busines to engage in a particular Defence of a Gentleman's Choice of Situation, (wherein Fancy always presides with the greatest of Men) I shall proceed to my particular Description; and herein first begin with the *Green-house*. To pass by the Magnificence of the Seat, the *Green-house* adjoining to it, is, I think, one of the most beautiful and commodious Piles

for its Purpose, I ever saw ; it is near a hundred Foot in Length, and of a proportionable Breadth and Height. The Outside is built of the finest Stone, adorn'd with numerous Columns of the finest Architecture, and the main Front neatly set off with extensive Sash Windows, in Height almost from the Bottom to the Top : You ascend five or six magnificent Stone Steps to enter, where you have a large folding Glass Door : Underneath are Vaults with Stoves for Fire in the Winter, and Repositories of Garden-Tools, and the Top is surrounded with Rail and Ballister, having at proper Distances an agreeable Variety of small Statues mixt with Urns, &c. And in the Front are various Motto's in large Characters of Gold, very well adapted to so noble a Conservatory.

This *Green-house* in the Winter is replete with all Manner of fine Greens, as Oranges, Lemons, Mirtles, &c. set in the most beautiful Order ; several Rows of Scaffolds one above another, are erected for that Purpose, on the Topmost whereof are plac'd the most tender, but largest Plants ; and the Shrubs, Flowers, &c. below, so as to make the Figure of a Slope, with Walks between the whole Length, for the Gardener to examine into the Health and State of his numerous Vegetables : 'The Inside of the House, if I mistake

mistake not, is cas'd with Bricks, which keeps it naturally warm and healthy; there are several Stoves underneath at convenient Distances for Firing, whereby a regular Heat is diffus'd over the whole House, and the Outside is so well guarded with Shutters in the Winter, as to disdain the Fury of the most penetrating Winds.

The Sashes being very large, especially at the East End, by a prudential displaying of them in the Spring, inures the Greens to the Air so as to prepare them for a Removal to the Parterre; and when most of the hardiest Plants are expos'd Abroad, it is usual here to preserve two or three Rows of Oranges, &c. the Length of the House, which make most beautiful and fragrant Walks within Doors; and the whole House is white-wash'd, and hung round with the most entertaining Maps, Sculptures, &c. And furnish'd with fine Chairs of Cane for the Summer.

When you quit the *Green-house*, at the Foot of the Steps are plac'd two prodigious large and fine Aloes, which with their prickly, bulky Arms, high extended, appear like Giants to defend the Entrance of the Conservatory: Turning to the left you find a spacious Pavement Walk, the whole Length

of the Front of the House and *Green-house*, at each End whereof are Paintings in Niches representing Statues.

To this Pavement in the Summer are carry'd Orange-Trees, Lemons, round-headed Bays, &c. in Tubs, and plac'd in Rows, so as to make a most delightful Walk before the whole Front, which is continu'd on the left against the Side of a Terrace-Walk, to the upper Part of the first Parterre: The Parterre is cut into four Quarters of Grass and Gravel, of various Forms, the Borders adjoining to the principal Gravel Walk, leading to the main Door of the Front, being set off with large Pyramid Silver Hollies, Ews, &c. having painted Iron Rods with gilded Nobs for their Support, and the Center-Sides, &c. with round-headed Laurels exactly clipt, Bays, small Pyramid Ews, &c.

Facing the Front of the *Green-house* is a running Canal of clear Water, about a hundred Yards in Length; at the upper End, in an enlarr'd Circle, with a high Head of fine Stone, is a Fountain which casts Water above sixty Foot in Height, and great Variety of small Pipes playing all round, which entirely fill the Circle or Head of the Canal. In this Canal several Sorts of Fish are confin'd,

fin'd, as Trout, Perch, Carp, &c. of a very large Size, and tho' it is deep, yet the Water is so transparent that you may easily discover the scaly Residents, even those of the smallest Dimensions: And this Canal is so very much frequented in the Summer, that the Fish will not be disturb'd at your Approach; but are almost as tame as the Swans, (two whereof continually waft themselves with Grandeur in this Canal) which will not scruple to take an uncommon Feeding from your Hands.

The Situation of the Canal is lower than the Parterre before the Body of the House, separated with Walls; that on the Left making the Parterre a Terrace, and that on the right dividing the Garden from the Park; so that it is as it were a private Garden of it self, and indeed is a most pleasant one in a hot Season: In the Walls on each Side are several Falls of Water, from Pipes and Monsters Heads to Basons, from one Bafon to another, which at last empty into Streams appearing like Brooks, and these discharge themselves into the Canal: One of the Walls is fill'd with Fruit-Trees, and the other (the highest) with Ever-Greens; and of each Side the Canal are Walks of Bays, Philireas, &c. in Tubs, and two very large Silver Hollies at the End to grace the Entrance.

The Wall of the Canal is cover'd with a Coping of fine Free Stone, and so are all the Walls belonging to these Gardens. At the upper End of it are about half a dozen Stone Steps, which lead you to the second Parterre: This Parterre is of the whole Breadth of the Garden, and is finely adorn'd with round-headed Standard Laurels, pyramid Ews, &c. with Iron Rods and gilded Nobs; and the two Quarters of it, on each Side the large Walk leading to the Front-Door, are during the Summer set off with Oranges in Tubs, &c. in the Nature of an Orangery: Opposite to the Canal, is an Octagon Fountain of a considerable Extent, the Pipe in the Middle throws a large Stream of Water a very great Height; and round it there are eight large Cases or Heads facing each Side of the Octagon, with a Multitude of small Pipes very close together, which when play'd, make a very good Representation of Pillars of Water.

The End of this Parterre is fenc'd in from the Park with curious Iron Work, on Dwarf-Walls; and on Pillars between the Spikes are fix'd Variety of Heads carv'd out of fine Stone; here's a large Iron Gate beautifully Wrought, and finely painted and gilded, which lets you into the Park; after you have

have pass'd about twenty Yards on a Gravel Walk in the Park, you come to a noble Cataract or extended Cascade of Water; this Cascade is on a Line with the Octagon Fountain, and the Canal, and all exactly fronting the Door of the *Green-house*; it has, as I remember, near two hundred and fifty Steps to the Top, and as many Falls for the Water to descend, and it is so high, that you have several Seats erected for Resting. At the Bottom there is a large Oval Pond with a Fountain in it; at the Top there is likewise the same, and in the Middle a large and lofty Pedestal, supporting a Neptune cut out in Stone, of large Dimensions, with an exalted Trident in his Hand; a Whale is represented between his Legs, discharging a great Quantity of Water into Basons on the Heads of Tritons, from whence it falls large Sheets to the Pond.

At regular Distances are plac'd several small Pipes or Fountains to the Top of the Cataract, on the Steps which facilitate the Descent of the Water; these Pipes, when they play, seem a Slope-Walk of Fountains; and when the Cataract plays at the same Time, the Weight of the Water, and the Falls are so great, that the Noise very near equals the Billows of a raging Sea, and may be heard at a very great Distance: At the

the Bottom of the Steps are planted two Thorns encompass'd with Seats, which are arriv'd to a large Stature, and being kept of a round regular Form with frequent Clippings, make a very good Figure: There are small Pipes which twine round the Bodies of these Trees, and appear more like Ivy on the rough Bark, (being painted Green) than leaden Pipes, which on the Turn of a Cock discharge Water from a vast Number of small Nosils in the Head of the Trees, all round as natural as if it rain'd; and in a cloudy Day I have been inform'd, Spectators setting down here to rest themselves, the more these Pipes have play'd, the closer they have embrac'd the Tree for Shelter, supposing it had really rain'd, 'till the Gardener has convinc'd them of their Error, after they had partaken of a sufficient Sprinkling to imprint in their Memories the pleasurable Mistake.

Between this Hill, which gives the Situation for the Cataract, and a Hill in the Park, you have a fine winding Valley of about half a Mile in Length, planted with Horse-Chesnuts; at the upper End is a fine Brake of Wood on the one Side, and on the other a large square Pond; from this Pond a small Channel is cut for the Water, which after a great many Falls from Cascades, at Length enters another Pond, so that you are never out

out of the agreeable Noise of a murmuring Stream. Near this Pond, at the Entrance of the Chestnut-Walk, is likewise a third Pond, of a large Extent, having in the Middle a very fine Statue and Fountain.

From hence you come back to the Garden, and mount the Terras-Walks, which are several, one above another, and very beautiful; the first adjoins to the North Side of the House, so that you come from a Closet, one Pair of Stairs, immediately out upon it; and at the End of this, in the Middle of a small Slope-Garden, enclos'd with a lofty Hedge on one Side, and a high Wall on the other, is a small Statue representing *Iris*, from which a Fountain plays, and fills all that Quarter with seeming Rain, to the very great Refreshment of those Persons who frequent the Rooms facing it in a scorching Season: But to return to the Terras's; there are four in Number of a good Length one above another before you arrive at the Top, at the Ends of which you have a Wall to separate them from the Church-yard, beautify'd with fine Paintings in Niches; except it be in one of the broadest, where you have a most commodious Summer-House, answering to a Pigeon-House on t'other Side in the Park. You ascend these Terras-Walks on large square Stone Steps, 'till you come near the Top, when

when you arrive at very grand and magnificent Steps, cut out in the Form of a half Circle.

When you have ascended these Terras's, the first Thing which offers to your Sight, is a large Stone Statue on a handsome Pedestal, near a Wilderness, and a fine Fountain with plenty of Fish, on Ground of a more exalted Elevation than the Top of the House; from thence you proceed to two Noble Terras-Walks, each above a quarter of a Mile in Length, one for the most Part enclos'd with a very lofty Hedge, kept shorn, and a Wall with Fruit-Trees, making it a solitary Walk, and the other open and expos'd; but planted on one Side with round headed Dwarf Elms, and Firs, and Iron Rails on the other: From this Terras you have a prospect from you of about eight or ten Miles over a rich and fertile Vale, which, by Variety of Woods, Groves, and Meadows, appears like a *Rural Garden* to this stately Mansion. Here you have in View the Avenue to the House, which is full of stately Plantations, and to which you have a regular Descent or Slope planted with Dwarf Fruit-Trees. On the other Side of the grand Avenue are two very large Ponds, almost cover'd with Water-Fowl, and a noble *Dutch* Fountain between, having small Seats

Seats and Arbours all round, and Falls of Water, which make the Figure of a Pyramid, by descending from one Bason to another: In the Court-Yard before the House are two large Pedestals with Sphynxes, finely carv'd, and the Stew-Pond; on one Side is the Orchard, and at the End is the Kitchen-Garden.

As you proeess on the Terras Walk, you meet with Niches and Falls of Water, and likewise a Fountain in the Middle; and towards the End you are agreeably surpriz'd with a Flower-Garden on a Slope, to which you are let thro' the Hedge by an undiscover'd Gap; when you come to the End of the Terras, your Prospect is so far enlarg'd, that you see *Welch* Mountains thirty or forty Miles distant: Here you have large arch'd Seats, on which are painted Motto's suitable to their Situation, and a pleasant little Garden laid out into Gravel-Walks, Grafs-Plats, &c. from hence you advance to a Mount considerably higher still, in the Middle of a Warren; on the Top of which is a large Seat, call'd a *Windfor* Seat, which is contriv'd to turn round any Way, either for the Advantage of Prospect, or to avoid the Inconveniencies of Wind, the Sun, &c. Here 'tis you have a most entertaining Prospect all

all round, and you see into several Counties of *England*, as well as into *Wales*.

From this Seat you descend again to a flourishing Wilderness, on an easy Slope, cut out into the utmost Variety of Walks, especially solitary Walks, and beautify'd with Statues: In the Middle there is a delightful square Garden, having four large Seats at the Corners, and a Seat round an aspiring Fir-Tree in the Center, from whence your Prospect terminates in a large old Church, at a very great Distance. I never in my whole Life did see so agreeable a Place for the sublimest Studies, as this is in the Summer, and here are small Desks erected in Seats for that Purpose: On one Side you ascend several Grass-Steps, and come to an artificial Mount, whereon is a large spreading Tree, with a Vane at the Top, and a Seat enclosing it, commanding a most agreeable and entire Prospect of the Vale below; from hence you come down to a very magnificent Arbour, with the Convenience of Water-Works to play round it. Opposite in the Park, on a Hill of equal Elevation, is an Arbour every Way answering this, and compleats the Regularity: From hence you ascend the Mount again, and go by the Lodge and a large Nursery of Trees into the Park, where,

on

on a Hill almost as high as any I have describ'd, is the Spring Head and the Pond, which supplies the Water-Works: It takes up near an Acre of Ground, and at the Head is eighteen or twenty Foot deep; it has an Island in the Middle planted with Trees, contains Variety of the finest Water-Fowl, is well stock'd with most Sorts of Fish; and here you may sail in a Ship on a Mountain.



C H A P.





C H A P. I.

S E C T I O N I.

I N T R O D U C T I O N,
O F T H E*Management and Improvement of
arable Land.*

HE foregoing Chapters of these Volumes relating entirely to the Distribution of Country Seats into rural and extensive Gardens, &c. it seems requisite for me to compleat them, in shewing how these several Parts are best to be manag'd and improv'd, in Order to answer the Care and Expence, the Owner is suppos'd to be at in this matter. I shall, therefore, in this Part of my Work stick

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chiefly

chiefly to the exterior Parts of our Design, and reserve the interior Parts, as Flower, Kitchen, and Fruit Gardens, for the Close of my whole Design in this general System of Agriculture and Gardening.

But, before I proceed to this, I must observe, that the Method I have taken is different from that observ'd by those that have gone before me; and the Truth is, Husbandry is so very much improv'd, since many or most of those Tracts were written, that they would have afforded me little Assistance, and for that Reason I have consulted them very little, or no otherwise, than to avoid the Method they have taken; but have drawn these Papers together from my own Observations, and the present Practice of our best Husbandmen and Gardeners, collected as they have been by my own Labour and Pains in my Passage thro' the best Countries for Husbandry in this Kingdom.

And, that I might make them still the more useful and intelligible to the Gentleman and Gardener, I have endeavour'd to assign the natural Reason of Things to every Precept, which will undoubtedly make the greater impression on the Mind, and all Practitioners will have the clearer Idea of what they are in every Respect to do, for (as is already hinted in the first Volume) it is in Gardening and all other ingenious Amusements, as it is in Theology, Philosophy, &c. wherein

Wherein one Theme that is cleared by natural and rational Arguments (when agreeable to the Judgment of great Men) makes more Impression on the Mind, than many positive Precepts, which too often (to use the common Expression) go in at one Ear, and out at the other; but when the Nature and Reason of the matter is clearly made out, the Judgment is soon fix'd with Delight, and the Matter retain'd as long as Life it self, or Memory is perfect or lasting.

Thus; I have not thought it sufficient to say positively, that such and such Compositions of Earth, Dung, or other Improvements are proper for such and such Lands; but have from as plain Arguments, as the Nature of the Matter would bear, and to the best of my own Understanding demonstrated why it is so, and have endeavour'd to shew the Methods, by which Nature works its Effects.

And, that I might proceed the better, I have first said something preparatory to the Improvement of Lands by ploughing them; the Nature of all or most of the Sorts of Land we abound with here in *England*, and their Improvements by Dung, or other Composts, and by sowing of Grass-seed, &c. And, to finish all, added the particular Uses and Virtues of all Sorts of Compost, abstractedly consider'd with a Treatise of Seeds and Grain, that are to be sow'd in these our rural Plan-

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tations and Villa's, both for Profit and Plea-
sure.*

This being premis'd, as the general Design of this Chapter; let us now in Pursuance of our Design, inquire into the Nature of the several Improvements we now make use of in *England* for our Lands, whether Natural, or Artificial. By Natural I would be understood to mean the simple Methods of Fallowing, Folding, and Dunging; and by Artificial, the several Composures of Earth, Dung, and, which is still more surprizing, the Help that Lands receive from Grafs-seeds and Vegetables. Both of them might be indeed included under one Head, but I purposely divide them for the more Methodical Proceeding in this Work.



S E C T I O N II.

*Of the Natural Improvements of Land by the
Plough, Spade, &c.*

THE Original of this is without doubt, coeval with the World it self, being appointed by God Almighty for the Employ of Man after his unhappy Fall, and for the Redress of those Malignities that were inflicted on the Earth (by God's Command) for Man's Disobedience; and this being the first of our natural Methods, I thought fit

to

to place it here. And first of Summer Fallowing.

Of Summer Fallowing.

This I call a Natural Way of improving Land, it being effected without the Addition of Artificial Composts, and Nature, with the simple Application of Folding, renews the exhausted Vigour of the Earth, by its being laid fallow all the Summer, where by the Distillation of the Rain and Dews that fall in Summer, and by the Joyn Operation of the Sun, Air, and Rain (but chiefly of the Sun as prime Agent) the Ground is as it were calcin'd ; for the Effect that attends all Lands thus fallowed I take to be this, that during the four hot Months, such kind of Lands are expos'd to the continual burning Heat of the Sun, and in some Measure heated as Chalk or Stone is in a Lime Kiln ; by which means the Crudities of the Earth are corrected, and the first Rains that comes in *August*, make it fall to a Powder, as Chalk or Lime-stone well burnt does, when Water is thrown thereon, and that in the stiffest and most surly of all our Soils. And, tho' at first Sight, there may be some Reason to think, that during the excessive Heats, that reign in some hot Summers, the Juices and Vital Qualities of the Earth may be thereby exhausted ; yet we find the contrary by Experience,

peience, and that the hottest Summers are the greatest Improvers of our fallowed Lands ; and from this we may reason with our selves, that tho' the attractive Power of the Sun does undoubtedly draw up a considerable Quantity of those Juices, yet there is an equal, if not a superfluous Dimission of those Vapours again in the Nocturnal Dews, that are generally very great in Summer, especially after an hot Sultry Day ; but by the Joint Operation of the Sun, Dews, &c. together with the Ventilations of the Air, the Earth is sweetened, the Crudities thereof exhausted, or expell'd ; and, by being burnt, and crumbled into Dust, as it were, receives with the greatest Ease the refreshing Distillations of the Clouds in the Autumn (and, if I may so call it, by the happiest Coition imaginable) impregnates the Womb of the Earth, and fits it for its best Productions : And this is the Reason that our best Florists now chuse fallow'd Land, thus managed, before the most elaborate and choicest Artificial Composures for their finest Flowers ; and will teach all that make heaps for that, or any other choice Exoticks or other Plants, that 'is not Dung that does their Work, but a proper Earth well ventilated and calen'd ; and will still farther instruct them, that have not the Convenience of coming to good fallowed Land, to spread the Earth for their Flowers very thin on the Ground,

in some waste faving Place all the Summer Months, to correct and sweeten it, as aforesaid ; and that 'tis not the Quantity of Grots, but the Quality of the most refined Juice, that is most proper for the Productions of Nature. But I am insensibly carried into the Garden, I therefore return to observe, that this Way of fallowing is more particularly beneficial to all lumpy, heavy Lands ; and those Persons that have a great deal of that Work to do, shou'd first begin on their coldest, heaviest Lands, and afterwards proceed to those that are lighter ; and, indeed, whereas cold heavy Lands should be thus expos'd for three or four Months, half the Time will serve for lighter, and some Earths are by Nature so tractable, that they require no fallowing at all.

It may be thought, that what I have been here advancing, may contradict what I have said in the first Volume, in relation to the mixing and spreading of Dung and Compost over Lands, because the Sun is apt to exhale the Juices thereof ; but my Arguments on this Subject, relate chiefly to strong Lands ; and, as for Mixtures, or Dung, simply considered, such an Exposure would be very prejudicial, because the Contexture of the Earth is such, that it will not retain the Juice so well as strong Land will, and will be, by the attractive Heat of the Sun, very much emaciated or dried up, notwithstanding the nocturnal Di-

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mission of Dews, &c.* And I have the Au-
thority of my Lord *Verulam* on my side in
this Matter (pag. 145. *Of his Natural His-
tory*) where he adviseth the not spreading Dung
and Compost over Lands, till just before
they are ploughed. I have been the more
particular on this, because I have observ'd,
the Farmers in many Countries spread it, or,
at least, lay it in little small heaps on their
Fields, perhaps five or ten Weeks before they
plough it in; but this will be more proper
to speak to hereafter.

It would be needless for me to say much as
to the Instruments with which this Work is
done, as Ploughs and other Utensils, they
being already well known to most Rusticks;
and, besides, the same is already done to my
Hand by Mr. *Mortimer* in his laborious *Colle-
ctions on Husbandry*.



SECTION III.

Of Winter Fallowing.

THE next Natural Improvement I shall
mention is Winter-Fallowing, which
in cold, heavy Lands, is as essential as the
Summer Fallow, and the Result is much the
same; the Sharpness of the Air in a frosty
Winter meliorating the Ground, as much as
the

the intense Heat of the Sun in Summer. This sort of Work is of mighty Advantage to all Sorts of arable Lands, because it sweetens the Earth, kills the Weeds ; and Land thus plough'd up and laid fallow all the Winter, is ready for any kind of Spring Crop : But in cold, heavy Lands it is certainly the worst of Husbandry to omit it ; (tho' we see it too often) and this is the reason why all good Husbandmen in the Wood-land Countries, where the Ground is strong, lay their Ground they design the next Year, for Barley, or any other Spring Crop, Fallow : And to look a little while into our Gardens, we see all good Gardeners, as soon as *Michae'mas* is turn'd, trenching their Ground, and laying it in Ridges (the Method of doing which, is taught in the first Volume) for it is not only of great Advantage to the Ground, but it lies likewise more ready against the Spring, and fitter to receive what Seed we intend to sow upon it ; and, as our Country Men phrase it, it Ploughs, Harrows, and Rakes a great deal the better for it. The Country Farmer should, then, as soon as his Crop of Wheat is off, and the Herbage a little cut down (*viz.*) as soon as Harvest and Wheat sowing is over, consider what stiff Land he has, that he intends to sow in the Spring, and plough it up, but in as rough a manner as he pleases. The Frost in the Winter will pierce the greatest Horse-headed Lumps his Plough can throw up, and will,

will, before Spring, reduce it into the finest Dust or Mold, whereby it will be sow'd, and harrowed with more ease, and is thereby in the fairest way of yielding a bountiful Encræse.

Before I go any farther, 'tis requisite I should mention some of the Sorts of Ploughing in use with us in Lands of different Contextures. Of Plough-trenching, I have already spoke, in the Choice of Soils in the beginning of this Book. Rafter Ploughing and Sowing under Furrow, is what needs some Explanation, there being little said of it in any of our Rustick Authors; the first is us'd in Lands, after they are burnt baked, as our Farmers term it, where they set their Iron pretty shallow, and plough one Furrow, and leave another whole: For, say they, should we plough our Ground throughly, the Ashes, which are the Spirit and Life of our Ground, would be all buried, and the Ground itself be useless, and never the better for Baking; whereas this alternate Ploughing and Harrowing afterwards mixes the Earth and Ashes together, and they are not buried as in the other common ways of Ploughing they infallibly must be. Ploughing and Sowing under Furrow is where the Ground is very light, and sandy, and that the Corn requires to be well cover'd, and this is usual in such Lands in Pease, and Oats, and sometimes even Barley and Wheat. But, to proceed

ceed, to heavy Lands, let us take a short View how the Dissolution of them is effected. We must observe, that next to Heat, (nay, I may say, equal to Heat) there is nothing more piercing than Air in a clear frosty Night, and therefore it is no wonder, if it works the same Effects as Heat does; for, 'tis very certain, that Heat, and Cold have a virtual Transition without Communication of their Substances (in every thing but Plants and Animals) in Relation to each other, and that the Air causes this Dissolution purely of itself (at least with very little assistance from Heat and Moisture) condens'd and frozen first, and afterwards relax'd by its own genial Warmth, with none, or very little, help from the Sun: And it is observable, that the drier and finer the Air is (as is the case of clear frosty Weather) the more subtle and perspiring it is. I have already in the first Volume said somewhat of the husky piercing Winds in *March*, and how prejudicial they are to the milky emulgent Fibres of a newly planted Tree, which will sufficiently convince any Person that takes notice of it, how deep Air will penetrate into the Earth; and, tho' this pure refined frosty Air we are speaking of be not so piercing as that dry husky Air is, yet it is much more natural, as being first much finer, and besides actuating with much more Moderation; for whoever examines the Origin and Violence of

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of March Winds*, will find them to be owing
to a more violent Cause than pure frosty Air
is ; but, to take our leave of this strict Enqui-
ry, least it lead us too far out of the way, 'tis
by means of this open Exposure in the
Winter, that our most surly Lands are cor-
rected, and it therefore keeps the Husband-
man under the greatest Necessity of using his
Ground after this manner ; and both of these
Fallowings are of that Benefit in Gardens and
Plantations, that the Directions relating
thereto, ought to be writ in Characters of
Gold, for that 'tis the common Method that
is taken of breaking up Ground and planting
it immediately, that occasions very much of
the ill Success of Planting and Gardening, as
well as Husbandry ; the Earth being oft times
(I might say always) sour and undigested ;
and no wonder if the new planted Tree, or
new sow'd Seed does not thrive, but if he
do esstrike Root at all, looks in a very star-
ving Condition, and 'tis ten to one if ever he
makes a good Tree, except the Ground be
naturally very good, which does not gene-
rally happen.

Let that Person, therefore, that has a mind
to plant or to sow either Mast or Corn, or to
plant large Trees, consider what time of the
Year he intends to do it ; if at *Michaelmas*,
or some little time after, then plough the
Ground, or prepare the Holes wherein his
Trees are to stand in, *viz.* the latter end of

April,

April, or the beginning of May, or, indeed, any part of that Month will do: Thus let it lie all the Summer, but if it be in heaps of Earth, and lies thick, turn it as often as you can.

In like manner, if you are to sow or plant in the Spring, use the same Method; be it either for Forest Trees, Acorns, Corn, or any other Garden-like, and Forest Improvements. For to conclude this View, this Exposure, does not only dissolve the Lumpyness of the Earth, and correct the Sourness and Crudity thereof, but (as all Philosophers own) there is both in the Sun and Air a nitrous and sulphurous Matter, which is of particular Ailment in the Growth and Encrease of Vegetables, Trees, &c. And this is very discoverable both in sappy, juicy, or succulent Plants, call them which you will; that tho' they are out of the Earth, by the help of Air and Sun only will for some considerable time grow and sprout, such are Onions tyed up to a Stick, &c. and amongst the Exotics, the Aloes, Cereus's, &c. which, notwithstanding their being out of the Earth, readily obey the Dictates of Nature, and if they have Air or Heat, sprout out and grow.



C H A P. II.

S E C T I O N IV.

Of Earths and their Improvement.

I will not be expected, I presume, that I should in this Explication of Earths and their Improvements, run into the many Divisions and Characte-
risticks of Earth, but only stick close to those that this Country commonly abounds in, be they Sands, Clays, or other black Pasture and arable Lands, compounded of Loame and Sand; of Sand and Loame, or of Clays mix'd with either, as they were temper'd or fram'd, and as they are to be found promiscuously scatter'd and dispos'd, by the great Author of the Universe in the Formation of the World (or as they were confusedly hurl'd together, by the violent Agitation of the Waters in the universal Deluge.)

But, before I proceed to the several Kinds of Earth wherewith we abound, it will be necessary I should define the natural good Qualities thereot, and how they are discove-
rable by sight, smell, and touch; but above all, and that which few of our most elaborate

Chymists

Chymists have toucht upon, its Weight, is as sure Indication of its Goodness, as any of the afore-mentioned, as containing therein great quantity of Nitre, and other solid Materials that give it Ligature and Ponderosity, and render it fit for the Production of Corn, Trees, Plants, and other Vegetables of all Sorts, useful for human Life, or the Refreshments of it, and first by sight.

I can't think it sufficient to believe, with some of the Antients, that blackish Grounds are Cold and Dry; for where-ever there is mixture of Sand, the contrary evidently appears: Or that all hot and choleric Grounds are red or brown; that cold and moist are always whitish, or hot, and moist, ruddy. These participate of these several Qualities, as they are more or less mix'd with a sandy, gravelly, or arenaceous, or on the contrary with heavy and clayey, lumpy, or sluggish Materials; or as they are many times tinctured and discoloured by standing Water, or Rains, by Exhalations from Minerals, the heat of the Sun, or other Accidents; Molds of a lively Chesnut are the best, of which Colour are the best Loames, and also the best natural Earths; next that, dark Grays and Russet: the light and dark Ash Colour are the very worst, being such as are found on common heathy Ground: The clear Tawny is by no means commendable, but the yellowish Red is the worst of all, as they are like-

likewise found in the wild and waste Parts of the Country, and generally produce nothing but Gorze, Furze, or Fern, as their Bottoms are more or less of a light and sandy, or of a spewy Gravel or clayey Nature.

All good and wholsome Lands will likewise after Rain, or the breaking up by the Spade or Plough, emit a good Smell, so, that 'tis well known our Physitians recommend it as conducive to Health, and to the recovery of Strength to Consumptive Bodies: On the contrary (for I have particularly try'd in the Fens of *Lincolshire*) when you break up any of those Grounds, where the Waters are stagnated, there will come forth such a Stench, as one is hardly able to bear; but Earth likewise receives this badness of Smell from some Mineral or Metallic Quality, that lies in the subsiding Beds and Strata of the Earth, and are drawn up by the attractive Power of the Sun. And we may generally observe, 'tis in these Places, Wood Timber, or even our smaller Herbage and Vegetables never flourish to any degree of Perfection. There may be many other Causes of the ill Scent and Discolour of Earths, as where these Mineral, Metallic, or Stagnated Waters, by means of their superiour Level and Verticity, break out and expend themselves quite thro' the Neighbourhood, tainting the Earth where-ever it passes, and leaving behind those dismal Marks of Sterility

Sterility and Discolour: By breaking up and swelling to the Earth, we may then judge of its Qualities, and by carrying of those Springs by Drains, &c. and exposing the Earth it self to the Ventilations and other Emundations of the Sun and Air, it may in time be sweetried and stript of those unwholsome Effluvia, that render it loathsome to the Animal, as well as Vegetable Part of the Creation.

Another Proof of good Mold, is by the touch, or handling, by which we discover whether it consists of Substances, entirely arenaceous, or clammy; or, as Mr. *Evelyn* expresses it, whether it be tenera, fatty, deterseive, or slippery, or more harsh, gritty, porous, or friable; that being always best, which is between the two Extreams, and not containing the two different Qualities of soft and hard mix'd, of churlish and mild, of moist and dry; not too unctuous nor too lean, but such as will easily dissolve, of a just Consistence between Sand and Clay, and such as will not stick to the Spade or Fingers upon every flash of Rain. In a Word, as Mr. *Evelyn* has it, that is the best Earth in all Senses, that is of a blackish Gray (or I rather affirm, a lively Chesnut, or Hazel Colour) cuts like Butter, sticks not obstinately, but is short, tolerably light, breaking into small Clods, is sweet, will be temper'd without crusting,

As for the several Parts of which Earth is compos'd (I mean those relating to Vegetation) 'tis certain they are but few; the Earth stript of its fertile Principles, being no other than the Bed or Couch, wherein they lie after their first Lodgment and Impregnation, since 'tis apparent, that the Earth is not all Salt, Nitre, or call it which you will, but that all abound with it, some more, and some less; and the Earth simply considered, may be divided into two Parts; that which is gritty, porous and crumbling, that which is viscous or clammy. And I must confess myself at a loss to find how Mr. Evelyn supposes that Clamminess is an Accidental, rather than a Constitutive Part of Earth, since the Glutinosity of Clay does without doubt proceed from the same Time and Cause, as the loose arenaceous and porous of Sand; it being those, and only those two Principles, in relation to touch, that properly belong to the Head we are on.

The proper Apellation of those other clear, sandy, or crystalline Parts, which are by all acknowledged to be the Nutritive Parts, when by the Distillations of Rain and Water, and by the approach of the Fibres of the Tree, they liqueate and run, and are either joyn'd to, or more properly are carried thro' the Interstices

terstices and Pores of the Plant, by the Order of Nature, or the attractive Power of the Sun. Mr. *Evelyn* calls it Salt, or Nitre, whilst Mr. *Woodword* is sorry he can't subscribe to it; being positive from Experience, that Salt and Nitre, are in their own Natures entirely destructive to Vegetation: But this Gentleman's Mistake seems to be as to the Quantity that is us'd; whereas, were it to be lightly strow'd over the Ground we should soon perceive it give a new Vigour and Ferment to it: On the contrary, it must be own'd, that where-ever it is spread thick it destroys all near it; yet after this, when the Vigour and Heat is abated, and those Principles come to their Original Tone, Vegetables spring up much more freely than before; and this is evident to those, who by Pot Ashes, or Fiery and Nitrous Waters, endeavour to destroy Weeds, Worms, &c. in their Grafs and Gravel-walks. But, let us see how earnestly Mr. *Evelyn* contends for this Application; the Salts (says he) entice the Roots to affect the upper and saline Surface of the Earth, upon which the Rains and Dews descend.

'Tis Salt which makes all cover'd and long shaded Earths fertile, and renders the Dung of Pigeon, Poultry, and other salacious Corn-fed Birds so eminently effe-
ctual.

'Tis Salt that gives such Vigour to Places
sprinkl'd with Urine, Soot, Ashes, &c.

'Tis Salt which resuscitates the dead and
mortified Earth, when languishing and spent
by her Indulgence to her Verdant Of-spring,
&c.

'Tis Salt which renders *Egypt* so luxuriously
fruitful, after the Inundations of the River
Nile, and the nitrous Grounds of *Jamaica*,
and other Places which cause such a stupen-
dous Growth of Plants and Trees.

This, and much more of this has this in-
genious Gentleman urg'd in behalf of this
Principle; but I am sensible I have digress'd
a little from the methodical Pursuit of what
I propos'd, tho' under those Heads it was pro-
per to say something of this likewise.

Of the several Sorts of Earth, &c.

What I next propose to inquire into, is the
particular Nature of most Sorts of Earth,
that *England* abounds with, both for the use
of the Spade and Plough. And here I would
premise, that one and the same kinds of Earth
is alter'd in its own Nature, and require
more or less Culture and Improvement, ac-
cording to the Nature of the subsiding Bodies
on which they lye; some of these being such,
as has been before-mentioned, as draw off
their Juices too fast, whilst others are so te-
nacious of Rain, &c. as to change their very
Constitutions, and assume the very Natures
of

of those that lye under them: Thus do we often see Clay turn every thing near it into its own Nature, whilst Barren, as avaritiously devour those Earths, that either Art or Nature has made prolific.

The first Kind of Earth that I would speak of, and which indeed in respect of its Goodness, requires little Help or Improvement, is Loame or Brick Earth; it being strong in its own Nature, and needs little more than the Spade or Plough (either for the Gardener or Husbandman) to bring it into Order and Culture. This is the very best of our Wheat Land; and this in all Sorts of Composures of Earth, the Gardener or Florists esteems the best, as being of a close and Butter-like Contexture, that is, perfect as to smell, taste and handling, and has in short all the good Properties we have lately assign'd to good Earth: But this, as is already hinted, requires (except it be where it abounds much with Sand) a Fallowing, and if for Corn, one Years rest in four or five, and a folding of Sheep to give it new Vigour and Ferment. If you sow it then with Wheat, it ought to have a Summers Fallow: if with Barley (which is a Spring sowing) a Winter Fallowing; except it be a mild Loame, and much inclin'd to Sand, which I would more properly call (and so I shall speak by and by of it) Sand or sandy Loame, or the very best of Sands. To

finish what I have to say on this, I mean as to its Improvement, as it is a sort of Land that requires no Substance, being neither eat up nor emaciated by rough Clays nor barren Lands; its Refreshment, when ever it wants, needs to be only good in Quality; and as to the Quantity, little will serve. Sheeps Dung, or the Folding of Sheep, as is already mention'd, is the most excellent Improvement for it; but in defect of that, since 'tis impossible any Farmer or Husbandman should have enough for all his Land of that sort of Manure, except his Pasture very much exceeds his arable Land, I would therefore propose some Manures, which I have try'd in Gardening, and think the properest for the Refreshment of these kind of Lands, which, notwithstanding their natural Heartiness, will yet in time, by over much Ploughing and Sowing waste and decay. Be provided then with a good Magazine or Lestal of Earth, compos'd as follows; three Loads of Lime to one of Coal Ashes; four of clean Horse Dung, one of Sea Sand, if to be procured, or else Sand from the washing of Hills, throw them all together into a Pit, *Stratum* upon *Stratum*; and after they are well rotted and soak'd together, turn them over three or four times, and they will be excellent for the Reinvigoration of this, or any other Tired Land; the Land having then laid Fallow all Summer; a little before Ploughing for the Crop, lay it

on the Land; 50 or 60 Load on an Acre will be sufficient, and none need doubt, but this will give due Vigour to it; and, what I would always be glad to be understood to mean, when I speak of Improvement of Land, a new Ferment to this Tired Land. There be those that scarce ever give these kind of Lands any Rest; but this is too severe, some of these will hold very well four Crops, or perhaps five; but I think no body ought to go beyond this: However, every body may be govern'd by the Strength and Goodness of their Land, which is sometimes better, and sometimes worse. The Change of Crops in this Land is likewise as requisite as in others; not only of Seed fetch'd from other Places, but also a Change every Year as to its Kind, Wheat, Barley and Oats are what generally follow one another; but even this Method should be alter'd. Since 'tis now allow'd by all, that there are several Sorts of Juices in one sort of Land, that every particular Plant assumes to it self, and delights in, thus we see, after a piece of Ground has bore Wheat one Year, tho' it brought a very good Crop that Year, yet another Year it shall be very poor, or at least by no means equal to what it was the Year before; and yet Barley, or any other Grain will be as luxuriant and strong, as if there had been no Crop on that Land the Year before; and the next Year, Oats, Vetches, Pease, or Beans (if the Ground be naturally strong) and so on. Which

shows, that tho' the Juices particular to one Sort of Grain be drawn off one Year, yet other Sorts of Grain find some likewise proper to them, &c. what has been said as to the way of Change in Cropping, may be also said of Manure, in which a Husbandman should never use one and the same Method. Let Sheep Folding supply for once, the Composition before describ'd, and another time the Composition of Blood, Urine, &c. that will be found elsewhere prescrib'd, it would be ill Husbandry to turn these very good Lands into Grass. And before I leave this, I would note, that there are some Kinds, at first breaking up, too rich for Wheat, and should for that reason have a Crop of Horse Beans, and also of Pease (perhaps the better Kind) to abate their Vigour.

Of the same, or near a Kin to these, are the richest Clays, tho' sometimes of a more dusky Hue and Colour; for the Chrystalline and Nitrous Particles, tho' not less abounding in this than in the other richer Molds and Loames as to outward Appearance; are yet so lock'd up and invested in their lumpy and surly Beds, which are as so many Prisons and Cells, to confine them from the liberty of acting their Parts in the Business of Vegetation, till they are unlock'd by the intense Heat of the Sun in Summer, or

by

by the rigorous Cold of the Winter, seconded by Rains and Dews, which relax the Firmness of its Parts, and by a natural and easy Kind of Calcination, make those Lumps crumble into the finest Dust or Mold.

But there are several ways to bring these stiff Grounds to Tillage, since when they are first broke up out of a common Pasture, or have laid unplough'd for a Year or two ; this common Method of Tilling by a Summer or Winter Fallow will not do, the Husbandmen in Part *Buckinghamshire*, &c. where those Lands are in great Plenty, give them the ordinary Method of fallowing, and then sow them with Horse Beans, and in other Parts of *Berkshire* and *Hampshire* with Pease ; and this is a good Method to bring it into Tillage. I shall not in this Paragraph speak of many of the very surly Clays we meet with in several Places ; some of them when they are new broke up, requiring at least three, and sometimes four Plowings, (*bis Frigora*) two Winters to bring them into Order, this being what I shall treat of with their Management and Culture in the next. As for the changes of Corn Manure, &c. what was specified in the first Division of Earth will be proper in this, without very much Variation, there being little Difference in them, but the Colour both of them abounding with a happy Equality

We come next to the stiffest and sourest of our Clays, in which, notwithstanding the terrible Epithet they carry along with them, are lodg'd great Quantity of Saline Particles, were the Beds in which they lie, with due Labour and seasonable Management, reduc'd into a proper friable Temper; but there is besides this, a Sourness, which is very injurious to Grain, that is, the Natural bad Quality of these Kind of Lands; a good Exposure to the Air does well here, and there are, who to reduce these Grounds into Tillage, quickly are for Burning or Devonshiring them; but this by honest painful Husbandmen and those who have a regard to Posterity, or the real Benefit of their Landlords, is not reckon'd a good way, neither will it hold so long, nor carry so many Crops as what I am going to advance in its room, and which is the last, and ought to be no less the Care of every honest Man. The grazing Part, when thrown up, will not be so good, even tho' it is sown with Grass Seeds, which, some pretend, will attene for the severe Usage such Ground has met with.

In Countries where Chalk is to be had if it be for reducing into Culture, unplough'd Grounds, or for the Improvement of these that have been several times plough'd, as soon as ever Wheat Season is over, and

Teams

Teams at liberty, give a Chalking, and a Winter Fallow; no matter which of them you do first; tho' perhaps Ploughing may be best, because Chalking may be done in frosty Weather, when Ploughing can't: Here let it lie as rough as you please for the Winter, to mollify the Clods, and to help and reduce the Chalk Stones. And here I must remark, that the Chalking of any Land, is better at *Michaelmas* than in the Spring Quarter; for the Dryness of the Summer, is apt to set the Chalk so hard, that it will not easily dissolve. This way of Chalking, is, however, an excellent Manure for all four, furly Lands, nothing in Nature of Improvements being sweeter; and as it is also Heating, it will still add a Warmth to these Kind of Lands. But, to proceed, here let it lie till Spring, at which time plough it cross-ways, and this will tumble and mix the Chalk and Earth together; the Chalk will by the severe Winter Frosts be shaken to pieces, but if it be a violent stubborn Clay, which the Owner may readily perceive, I should not advise his thinking of Planting, or Sowing it this Spring, but let it lie fallow likewise the Summer, lest by endeavouring to crop it (tho' it be with Beans, Pease, Turnips, &c.) it return to its first Nature; but if you should think proper to crop, you must Plough it a third time in *March*: However, I rather advise the letting it be low, till the Showers reduce it into a better Temper

per still ; and then, if it be not the most incorrigible Clay, you may think of it for Beans, &c. and the next Year give it Winter Fallow, and sow it with Barley ; after that it will carry Wheat, because then the Chalk will be come to the height of its Improvement : And these Lands will alternately carry Crops of different Kinds for five, six, or seven Years, whereas Burnt-baking will at best last but three or four. And as throwing up is good for nothing, with the last Crop you sow, may be mix'd Clover, which is an excellent Improvement of those tenacious Lands. I know what I have said on this Head, is a kind of Invective against burning of Lands, as it enervates and destroys very much of those Juices, which are the proper Aliment and Spirit of Vegetation, and nothing can be said in its Justification, but that it brings Land into Tillage much easier and cheaper than the other Method does. But in case that Chalk can't be had, then a due Exposure for two Winters and one Summer, at least, must supply this Defect. During the Course of these six or seven Years this Land is kept in Tillage, it ought, above all Things, to be fallowed in the Winter, tho' it cannot be in the Summer (perhaps) lest it return to its own surly Nature ; but this I have urg'd elsewhere, as a Method the most conducive of all, to the Reduction of these Kind of Earths, or Clays. And what will add very much to the good Production of these

these Grounds, will be superficial Dressings (if it can be) of Malt Dust, Wood Ashes, and such other Dressings, which I shall elsewherere commend for being by Nature sluggish and unactive. These Dressings will give it a new Ferment and Activity ; and Experience tells us, how much this does that way. The several Changes I have heretofore mention'd, are likewise very proper in this, as well as in other Lands. Grain of different Sorts, procured from different Places, will still have their natural Goodness and Largeness : And in short, these strong Clays, if sown with Wheat or Barley, if they have a Winter fallow, and are superficially cover'd over with any of our Ashes, and other Volatile Composures and hot Dungs, as Pidgeons, &c. will produce in as great Perfection as many other Lands, that appear of a more natural and genuine Constitution. It would be of excellent Advantage to all these Kind of Lands, if in their rough Fallows there could be Quantities enough of Sea Sand, or Coal Ashes, or Pidgeon's Dung ; this would so meliorate the lumpish Quality of it, and would fall in with the Ruins of the Lumps, that the Ground would work as fine as any Garden ; and 30 or 40 Loads will be sufficient in an Acre of the worst Lands of all ; the Fierceness of those Improvements will thus be taken off, and the Ground it self reduc'd to a Flower ; for this we see by Experience in our Gardens,

where

where we use them more plentifully than in our Fields.

The next Earths we shall speak of, are Russet Grays, or Pasture, blackish Molds, as they are of a Temper between Loame, Clay and Sand, and are in their own Nature loose, and friable, and need less Culture, (tho' more Manuring) than any of the Fore-going, and these differing in their respective Goodness and Use, as they are higher or lower situated, and as they are more or less advantag'd by Water, which is the greatest Improvement to these Kind of Lands; 'tis on these that Corn is easiest propagated on Up-lands, and 'tis on these that in Lower-lands, as in the Levels, and Hollandish Parts of *Cambridge*, *Lincoln*, and *Yorkshire*, that we have the rich Produces of Lime, Hemp, Coal, &c. and which, if continued only in Pasture, is in these Countries worth 15 or 20 Shillings *per Acre*, and sometimes more; but when sow'd with those Kinds of Seeds, just mention'd, has to my own particular Knowledge produc'd 12, 15 and 20*l. per Acre*, all Expences paid; but of this, more in its proper Place.

Of those Russet Gray Earths there are two kinds, one that is very strong, lumpy and heavy, and the other that is lighter, and more approaching the Nature of Sand. The first Kind must be us'd, as is already taught, for Clays, and Summer fallowing for *Wheat*,

Wheat, and Winter for Barley are of excellent use; as for Pease, Beans, and Oats, they are Grains that require the least Preparation of any that the Husbandman sows, and are indeed a kind of Tillage themselves, by reducing Grounds to a proper Temper, and the Grounds may remain as rough, as if they were just fallow'd, and yet produce those Crops. About Fifty or Sixty Load of Sea Sand, Cole Ashes, or Pigeons Dung will be a good simple Manure for it; or you may make use of the Composition I have before prescrib'd for Clayey Grounds, but what are of mighty Advantage for all these kind of Lands, are the Superficial Dressings of Malt Dust, Cole Ashes, Wood and Straw Ashes, Pigeons Dung, &c. laid on upon your Corn in *January, February or March*, after the Crop is sow'd; because it gives new Spirit, Life and Vigour to the Grain and Ground likewise. And this should never be neglected to Ground, that is any ways poor, and has not been manur'd before sowing.

But the chief of these Soils I am upon, and on which I intend to enlarge the most, are those that are by Nature light; because, tho' they are easier brought into Tillage than other Lands, yet are they sooner wore out, and will consequently require more and oftner Applications to redress them.

As

As for Summer or Winter fallowing, there is not that Occasion here, as there is in heavier Lands ; and, if they are very light, need not to be fallowed at all, it being observ'd by Husbandmen, that they produce Abundance of Weeds, as Charnock, &c. after such an Exposure ; when ever you have a Mind then to plow such Lands, if they want dunging, be provided of large Lestals of such Dung, Earths, &c. as can be got at hand, always rememb'ring, what I have in the first Volume affirm'd, that Dung and Earth mix'd together are much more advantageous to the Improvement of Lands than Dung us'd separately, for the Reasons there assign'd ; and I must utterly condemn the Method some of our Country Men take of spreading their Dung in little heaps all over their Land, for that the Sun exhausts and eradicates the Salt and Fertility thereof, by its long Exposure in the Summer Months, and is indeed so dry'd, as not to retain any Virtue at all.

For Lands of this Kind take, then, the following Compositions ; one Load of rotten Dung ; one Load of Lime ; one of the Shovelling of Streets, and half a Load of Cole Ashes, Pigeons Dung, or Sea Sand ; or, in Default of that, the washing of Hills. And if amongst these there are mix'd half a Load or any Quantity, in Proportion, of Garden Sweepings, of the Leaves and Trash of Trees, the Guts and Garbage of Beasts and Fowl,

of Pot-Ashes, Old Rags, &c. it will in three or four Months, and by often turning make excellent Manure; about 60 or 80 Loads will be sufficient for an Acre, and you may here-on sow what you please; but our general Method in this, as in all other Lands is Change. If these Russet Gray Earths lie low, and the Water run round them, or thro', by Ditches and Carriages, as we term them, then they are excellent for Coal, Hemp and Flax, and will bring in more Money than Corn will. The first Year, then, after the Ground is new broke up, or newly Dung'd and Manur'd, sow it with Hemp, Flax, or Coal Seed; and after that, you may sow Oats, Barley, or Pulse, and Wheat also, if it be naturally good Land; for those other Seeds are great Drainers and Decayers of the Salt and Nitrous Parts of Land; so that except the Ground is very good, or one can spare a little Compost to re-invigorate it, one would never sow Wheat; for the Composts for these lower wet Lands, tho' they are loose, ought to be of a more lively Nature, than those that lie high; for which, then, take as follows (viz.) one Load and a half of Sea Sand, Coal-Ashes, Pigeon, or Sheep's Dung: One Load of good rotten Dung: And half a Load of the Shovelling of Streets, Pond Earth, or the like; Add to these, a quarter of a Load of Pot-Ashes, or any other of those Kind of Simples, that I have

capitulated above a simple Manure; for those low Lands is likewise Chalk, as Lime, Marle, and Loame are for those that lie higher and farther from Water; for which I also recommend (where all those Simples can't be procur'd) Lime and Pond Earth mix'd together, if the Ground be very light; as also Loame and Marle, by themselves, of which more in their proper Places superficial Dressings are likewise very good here.

The next and last Earths I shall mention, are sandy Loames, or more barren and loose Sands. Now as sandy Loams are some of the very best Lands, and the easiest reducible into Tillage, they will require the less Consideration, 'tis sufficient for them that they are Plough'd just as they are to be Sown, for the same Reasons I have just now assign'd to the loose Gray Russets; for Loamy Sands, or Brick Earths, that are those where the Loame is predominant; these have been already consider'd, and these will produce in their respective Changes all Sorts of Grain; as also all our Garden and Culinary Seeds, as Pease, Beans, Carrots, Turnips and Parsnips, and have little occasion of Manure and Rest, but once in four or five Years at most; after, then, they have Sown this Kind of Ground for two or three Years with the successive Garden Crops of Pease, Beans, &c. then the Ground be Sown afterwards with Wheat, Barley and

and Oats, because this Ground being by Nature very rich (too rich indeed for Corn, and would make it run all to Straw) the Garden Crops will draw off the superabundant Luxury thereof, and make it more fit for the other Products of Corn.

But as these Grounds as well as others will decay, some in five or six, and others in seven, eight or nine Years, 'tis reasonable to give them some Rest, or some Manure. The Manures that are proper for them, and which will naturally impart a Blackishnes, are Dungs well temper'd, mix'd and blended with Earth, of a pretty equal Temper, not too hot nor too cold; after the following Manner, one Load of rotten Horse Dung, a quarter of a Load of Lime, a quarter of a Load of Pidgeon and Sheep's Dung, a quarter of a Load of Cow's Dung, and a quarter of a Load of Sea Sand, half a Load of Marle, and half a Load of small Chalk, if they are to be had, or Chalk and Marle mix'd together are very good, or Chalk or Marle separate, about 100 Load of the first, and 70 of the last; for that Marle us'd in too great abundance, will be of ill Consequence to these Kinds of Lands, as making them too luxurious, which would be, and is a great Fault in all Lands, as too lean making every thing that grows in it, run all to Hawm; and tho' it may seem a kind of a Paradox, yet, I dare affirm, there

164 *Of the Management, and*
are almost as many ordinary Crops miscarry
by this means as the other.

Another great Improvement of these Kinds, and indeed all Sorts of Lands, are Turnips ; for that after the Vigour of the Ground is wasted, or the Ground is, as we say, tired, a Crop of Turnips sow'd thereon, and Winter-fed with Beasts, or Sheep (as we shall hereafter speak more largely) will mightily refresh, and by Ploughing in the Offal, you may the next Spring sow it with Barley, Oats, and any other Grain. *French* Wheat or Vetches, is what one would make the last of all ones Crops, before the Sowing it over again is re-assum'd with Garden Stuff, or Corn ; on the Vetches may be baited Horses, on the *French*, Cows, whilst it is green ; and as they trample upon Dung very much, they improve, and by the natural Heat of their Bodies, as they lie, do cherish the Ground in an unconceivable Manner ; and when they have eat and bask'd about it, then may the Remainder be plough'd in, which is indeed of it self naturally a very great Improver, but much more with these Auxiliaries.

The last Kinds of Earth I shall mention, are poor Lands, be they either Sand, or Natural Mold, shallow as they are, and stripp'd of all their Natural Principles, by too much Ploughing and Sowing, or as they are robb'd by their rapacious Substitutes, and Under-layers

Layers of Gravel, Sand, Clay, or Chalk ; and these of all others require an annual or biennial, at least a triennial Relief by Compost, or other Artificial Improvements ; and, because these Kinds of Earth are very numerous and extensive, the Husbandman ought, by all possible means to apply his Thoughts to find out great Quantities and great Varieties of Improvements, either Simple, Compound, or Natural. And the first I shall mention amongst the Simples is Chalk, if the Ground lie upon a Clay, or Marle, if on a Rock, or sandy, or gravelly Bottom, or as either of them are more lightly or heavily dispos'd, or requires the contrary Qualities of Heat and Cold ; but as these two Improvers are not always easy to be procur'd, the Husbandman must stretch his Consideration yet farther, and procure good Quantities of Manure, for 'tis dry barren Land, of which generally most Farms and Estates are compos'd ; and because in these shallow Kinds of Land, there is Substance wanting, we ought to take care to fleece and pick up all the Mold we possibly can out of the High-ways, and other publick and useles Places and Corners, allowing at least 160 Load to an Acre : Let our Composition be then two Load of Turfy Earth, collected as above ; one Load of Pond Earth, or the scouring of Ditches ; two Load of rotten Horse Dung, half a Load of Cow's Dung, half a Load of Hog's Dung, half a

Load of Lime; all these being well blended, mix'd and incorporated together, will make a substantial, excellent Manure; and to this Composition may likewise be added, the Garbage of Poultry, Sweepings of the House, the Trash and Leaves of the Garden, or any other Refuse; and this will last three or four Years, whilst you Reap or Mow the several Crops of Wheat, Barley and Oats; and then you must think of resting it a Year, or else throwing it up to Grafs; and if the Country naturally produces Chalk, Loame, or Marle; either of them will be a proper Manure for once, by which means you have one or two, or perhaps three or four Changes: And if the Country abounds with Sheep, then a Folding for another, and last of all Composts of Sea Sand and Lime mix'd together, and laid in a Pit, as shall be hereafter directed, will make an excellent Dressing. I had almost forgot to advise what I have elsewhere briefly intimated; that you ought by no means to omit the searching the Nature of your Ground below by Digging, for 'tis ten to one but you meet with several Kinds of Earth and Clays, yet the Bowels of your Land, be it never so poor, that will be of great Use and Improvement to the Surface, since there are few, very few Clays that do not contain a good deal of Vegetative Salt in them, and being untry'd and fresh, will yield both Substance and Spirit to your worn out and exhausted

hausted Lands, as I have before-mention'd in the Case of my Friend, that digg'd only a Saw-pit in one corner of his Field, and there found a coarse, rough sort of Earth and Clay, which nevertheless fertiliz'd his Land in a very great Degree, and inclin'd him, when he had once seen the Advantage of it, to dig Pits on purpose, wherewith he improv'd his Land ; and this is particularly useful where the Ground lies a great way from Dung, and other better known Improvements ; tho' even there this would be advantageous for a Change. These several Changes, in the Culture and Management of Lands, are of mighty Value, because it has always been observ'd by our skilful Husbandmen, that the Dressing of Ground, one and the same way, two or three times has not had the good Effect of that Change ; and of this I desire particular Notice should be taken. But if the Ground be poor and well tired out, then it is that the Farmer has Recourse to the last, and indeed some of the greatest Improvements that have been discover'd in this and the last Century, I mean Grass Seeds ; for poor clayey, Clover, Treefoil and Regrass, and for poorer dry Land on a rocky, shelly Ground, *Saint-Foin French* Tares or Vetches, because there are none of these but you may plough in after you have fed them a Year or two ; or you may, if you want Grazing Ground and Fodder continue the Clover three or four Years,

but the *Saint-Foin* will last 10 or 12 Years very well, and sometimes more, if ordered as shall be hereafter directed.

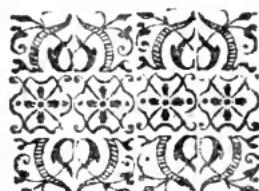
These Kind of Improvements on poor Lands are sometimes admirable, and did we not see it by daily Experience, the bare Narration of it would scarce meet with Credit: But we are oblig'd to the *Dutch* and *Flemmings* for them, how it should be, that poor Ground should produce Vegetables towards the enriching of it self seems paradoxical; but thus they may be suppos'd to affect it (*viz.*) being by Nature of a porous, succulent Quality, both in the Stems and Leaves they receive their chief Nourishment from the Sun, Rain and Air, which all of them abound with Nitre, and not altogether from the Ground, which, tho' an Indulgent is a weak Mother and could not effect it, were it not for the additional Helps of the other Vegetative Co-efficient Powers in the Works of Nature, as not now capitulated.

But the greatest of Vegetative Improvements for poor Lands are *French* or *Buck* Wheat, and our common Vetches, and are at any time as good as a Dunging. These sow'd, as shall be elsewhere directed and plow'd in before the Grain is ripe, yield a prodigious Enrichment to poor hungry Lands. When the Ground is then pretty well tired, but not quite exhausted, plough it in the Spring, and in *May* sow it either with *Buck* Wheat or Vetches

Vetches, and about the beginning of *August* plough it in, and it is one of the best Vegetative Manures ; or if you have a mind, and the Season offers, you may sheer off the tops of your *Buck* Wheat, and feed your Hogs and Poultry therewith ; For the Farmers suppose, that the chief Virtue of *Buck* Wheat lies just between the Root and the Straw, in that Place where we assign the Principle of Life to be seated ; and they add, that when the Ground is plough'd up, it swells as if it were newly dung'd with Horse Dung ; which seems to intimate, that there is a great deal of Virtue in the Roots of the Corn it self.

It would be difficult to assign particular Rules for the Management and Cropping of these kind of Lands ; but from what has been generally and promiscuously said, the careful Husbandman may collect what he is to do in all, or most Sorts of Land he shall meet with : And 'tis indeed a great happiness that he begins his Work at this time of Day, when Improvements of Land are so well known. It were not easy to believe, did it not occur daily, that Earth could be improved by its own Produce, and that the very Sea and the interior Bowels of the Earth should contribute to the Improvement of the Surface of our Lands, which heretofore were thought improvable only by Dung ; besides, Dungs simply consider'd, 'tis pleasant to think that Sea Sand, Sea Weeds, Oysters, and other Sea

Sea Shells, the very Leaves of Trees, either rotten, or, which is a quicker way, burnt to Ashes should make good Manure, or that *Buck* Wheat and Vetches, Turnips and other culinary Roots, and the Mucilage and Refuse thereof; that the Shovellings of Streets and Coal Ashes (that have long, and in many Places been thrown in some neglected corner) should be now some of the best Improvements. We have besides, that Lime from the hardest Chalk and Stone, when it has past thro' its fiery trial, and reduc'd into a kind of Ashes (very different at first sight one would imagine from any thing in Vegetable Nature) should yet afford us such great Quantities of saline Principles, the very Life of Vegetation it self. The particular Virtues of all these Improvements shall be what we shall next inquire into, and also how and where they are to be employ'd to the best purpose.



SECT ION V.

Of the Nature of Dungs, &c. for the Improvement of Land before sowing.

Of Horse Dung.

WE begin with Horse Dung, being the commonest and best known; and, as it is simply considered, the best Improvement for cold jejune Lands (as Cow Dung is for hot) that we have in any Quantity, tho' I can't but urge, as I have elsewhere intimated the using Horse Dung alone, or when it's too new, is a great Fault; and, which is worst of all, the spreading it thin over their Lands in Summer time, by which means the Sun draws out all the Virtue and Goodness of it, and leaves it little better than Thatch or dry Straw; the using it in too great a degree is likewise a fault that ought to be avoided, as being thereby naturally productive of Weeds (I mean as to Corn) tho' in the Kitchen Garden, as for Colly-Flowers, Cabbage, and all other Plants that grow there, and require abundance of Nourishment, you can scarce use too much of it: But for Corn Lands that are light, and not too much wore out, 15 or 20 Load will do for an Acre, whilst

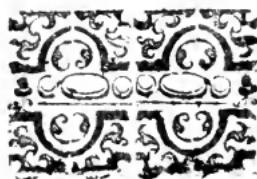
whilst in other poor Lands 30 or 40 will be but enough. Horse Dung is generally carried into the Fields in *May*, when the Teams are most at leisure, but I rather advise the mixing it with Pond Earth, the Shovellings of Streets, or Lime, than to use it singly, and especially in all hot natur'd Land, where it is very apt to force the Ground too fast, to produce abundance of Weeds, and be injurious to the Crops you sow upon them. 'Tis for this reason, that in *Essex*, *Hartford*, and other Neighbouring Countries, they get what Quantities of Lime Stones they can to mix with it, tho' at a great Expence.

Our best Husbandmen aver, that Horse Dung is best to be us'd when the Ground is to be sow'd with Barly rather than Wheat, tho' many of our Country Farmers rather chuse to Dung their Lands when they sow Wheat on them; but if you Dung it for Barly, which I much rather approve, lay it on your Land at *Michaelmas*, or as soon as ever you have given it a Winter Fallow, and then the Rains will wash it in, and digest it before the Seed is fit to be sown in it.

In short, the best use that can be made of Horse Dung, if the Land you are to Dung be light and shallow, is to mix one Load of Horse Dung, one of Pond Earth, and half a Load of Cow Dung, let them be well consum'd together; and if you have Coal or Sand,

Sand, add thereto the same Quantity of Lime to ballance the Vigour of their Heat. This being carried out in *May*, and laid in a *Le-
stal*, and turn'd over once or twice in the *Summer*, will be an excellent Manure by the time you have occasion to use this for *Wheat*.

On the contrary, in cold Land and shallow, two Loads of Dung, one of Coal Ashes, or Sand, one of natural Mold, and one of small Chalk. And here always observe, that the oftner you Dung Clayey Land, and the less you lay in Proportion, is the better; for that greedy Clays soon eat the Dung out, or binds it, so that 'tis of no use, and should for that reason be always laid on in the beginning of *Winter*, and when the Ground is fallow, that the Dung and Earth may mix and incorporate together, and be the fitter for use in the *Spring Crop*.



SECTION VI.

Of Sheep's and Hog's Dung, and of Human Ordure, used before sowing.

SHeep and Hog's Dung come next to be considered, which, for their different Quality, in cold and hot Lands none exceed; they are not commonly to be got in great Quantities, and therefore it is, that the Use of neither is so well known as they might otherwise be, though the extraordinary Goodness of them is such, that it would answer the Expence of the Farmer as well as Gardener to collect them together, if it were at the Price of 2 d. or 3 d. per Bushel, especially Sheep's Dung, as it is found on all Sheep's Walks and Downs, or at the Places (upon Down Land) where these Animals are generally fodder'd. The first, I mean Hog's Dung, is excellent good spread on all light Lands, and to have a good Quantity of that, it ought to be kept by it self, and to be well bedded with Straw, Pease, Hawm, and to be often fed with the Refuse of Garden Stuff, and milk Thistles before they come to Seed. And the later is excellent good to spread lightly over Autumn or Spring Crops, being beat into a kind of a Powder, and spread over it very thin, four or five

Load

Load will do an Acre, in the same manner as you do with Ashes, Malt Dust, &c. of which we shall say more when we come to superficial Dressings, &c. every good Husbandman then would by no means omit the gathering and getting Sheep's (or which is near the same Nature Deers) Dung together out of all waste Lands, which may not only be the better for the Lands, but will likewise contribute something towards the Employing of poor Parish Children, of which there are too many, that are suffer'd to live idle, lazy Lives, and come to nothing but thieving and Hedge breaking. Of Human Ordure, I doubt there is in the Country no great Quantities to be procur'd; what can be got, would be of the greatest Improvement to all cold, sour Lands, especially if mix'd with other Earths and Dungs; and this, small as it is, ought not to be lost, but care taken from time to time to commix and blend it with common Horse or Cow Dung, Pond Earth, &c.

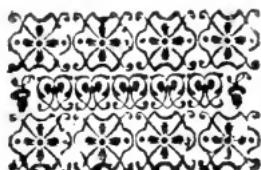




SECTION VII.

Of the Dungs of Poultry, used before Sowing.

Pigeon, Hen and Goose Dung are all of them excellent good Improvers of Meadow or Corn Land, but are best used superficially upon either; four or five Load will be sufficient for an Acre, sow'd over it about the beginning of November for Wheat, or just as Barley is sow'd, it being excellent for them, especially in all cold Lands. And *Coicumella* say, long ago, of Pigeon's Dung, *Præcaterram facit fermentare*: i. e. It is Lestal fermenting Lands. But these ought, above all, to lye some time out of their Dove Coats and Houses, that the Air may a little sweeten and mollify the fiery Heat that is inherent in those Dungs, even to a Fault; but we shall speak more of them when we come by and by to superficial Coverings.



SECTION

S E C T I O N VIII.

Of Marle, Chalk, Lime, &c. used before Sowing.

SOME that have writ concerning Husbandry, have divided Marle into five or six Sorts, according as they are found in the several Strata and Beds of the Earth. One call'd a Cow-shut Marle, of a brownish Colour, with blew Veins in it, and little Lumps of Chalk and Lime-stone that is found under stiff Clays, but hard to dig. A second, a Stone Slate or Flag Marle from the Slaty Manner of its Rising; they say, that it easily dissolves after Frost and Rain is found near the sides of Hills and Rivers, and is of a lasting Kind. A third Sort, is a Pealy or Delving Marle, rises in deep Pits, is close, strong, brown Colour and fat; is found on the sides of Hills, and sometimes in Boggy Lands, is some of the best of Marles, but requires a double Quantity, as it is neither so unctuous nor spirituous as other Marles are, tho' it is more lasting. A fourth Marle is like Clay, and mix'd with Chalk Stones. A fifth is call'd Steel Marle, rising of it self like Blocks of Stone, in square Cubes. A sixth, and which is the least valuable, as being hard to be got, is Paper Marle;

O it

it appears like Leaves or Pieces of brown Paper, only something lighter. To conclude, the general Divisions of Marle, are to four Sorts, as they appear of different Colours, and are a Blue, a Yellow, a Grey, and a Red Marle; the Blue is generally reckon'd the best, the Yellow next, and next the Grey; but the Red will not hold so long. I have also seen a whitish Kind in the Isle of *Wight*, of which Colour their Marles generally are. These Marles ought to be laid on Land, sometimes more and sometimes less, according to the richness, or poorness, or depth of the Land you marle. In the aforesaid Island, they tell me, they lay on from 60 to 100, or 120 Load, and their Land there generally runs upon a sandy Land, but it is better to lay on too little than too much. In fine, the Properties of any Sorts of Marle, and by which you are to judge of its Goodness, are that they break easily into Bits or thin Flakes, like Lead Ore, without any mixture of Sand, or Gravel, and flake like Slate Stones, and fall to pieces after wet, or being expos'd to the Sun and Frost, will in some reasonable time turn to Dust, or, when thorough dry, will not bind together like stiff Clay, but is fat and tender, and makes the Ground whereon you lay it of a proper Consistency, such as we have heretofore assign'd to good Land. Marle as is before observ'd, agrees best with sandy, loose Land; but as there is no Rule with-

without an Exception, so ought the Husbandman (in this as well other Improvements) to try a little of it on Lands that are supposed of a Nature contrary to it, since a small Experiment is easily made; but if the Ground be a very stiff Clay, and apt to bind it down, the Farmer ought to mix it with Coal Ashes, or Sea Sand, which will both together make an excellent Compost, and one will free the other from that Ligature and Imprisonment that Clays naturally lay upon Dung, and every thing else that is near its own Nature, as Marle is. Concerning Lands that are marl'd, 'tis necessary to observe, they generally speaking, sow them the first Year with Wheat, the second with Barley, and the last Oats, and so they repeat it; but others are of Opinion, that all Lands are better the second and third Year after marling, than they are the first, and therefore some begin with Oats, if it be a light Land, and the next Year with Wheat, the next with Pease, then Barley, and so on. After it has been plough'd five or six Years, or, if good Land, seven or eight, it will be proper to lay it up for Grass two or three more; for by this the Ground assumes new Vigour, and the Marle will not be all gone in fifteen or twenty, and in some Places twentyfive or thirthy Years. And here it must be noted, that all Lands should be marl'd in Proportion to the depth of Earth that it is clay'd upon, for otherwise it may be

over marl'd, which as has been before hinted, is a much greater Fault than under marling: For Lands that are tolerably good, and not deep, from 60 to 120 Load on an Acre is sufficient, but there are barren Lands that are very deep, that will require 3 or 400 Load; but these Lands are not so common as midling Lands are, and every Husbandman ought to try before he depends on any precise Rules, be they never so specious.

To these Marles we may adjoyn Clays, which are something of the same Nature, tho' if they are good, they are most unctuous and clammy; yet being dug in *May* or *June*, and expos'd to the Corrections of the Sun and Air in the solstitial Months, the succeeding Autumn Rains, will make them excellent Manure for all light Lands, by allaying the Heat and giving a proper Ligature and Consistence to them, and making them more solid and tenacious, and more constant in the Production of their Crops; and, which is of no small use, destructive to Weeds. Even Clays ought not to be set light by in sandy Countries, but Experiments should be made of them, whether they will be any ways a help, and these Experiments are neither dangerous nor expensive. In fine, in all Sorts of Lands that are either sandy or clayey, the diligent Husbandman will endeavour to prepare Mixtures of a different Nature, there being, as we have else-

elsewhere no Land, but has something proper to its help nearer than we sometimes imagine.



CHAP. III.

SECTION I.

Of Superficial Dressings for Land, after they are sown.

OME of the greatest Improvements that have within these few Years been discover'd, are the Superficial Dressings of Corn and Meadow Land, both of them of excellent Use, by giving a new Ferment to all such Lands that are in any degree sluggish and unactive, and enriching those that are jejune and slow; and these Superficial Dressings are the more useful and convenient as they may with more Ease be carried to the respective Lands where they are used, six, eight, or ten Load being a sufficient Drefs for an Acre of the poorest Lands; 'tis true, they are but of one Years Continuance (at least they abate very quickly) but nevertheless they are very useful, because in great Villa's or Farms, there are commonly so much Business, that by means of some contrary Seasons, they are of-

ten cast behind in their Affairs, and a great deal of their Lands uncultivated, which this superficial way of Dressing does amply, supply, and wherein the Husbandman has neither time nor opportunity to Dung and Manure his Ground after the common Method ; these will supply the Defect, and that with a very little Expence. These Superficial Dressings are of several different Kinds, which having not as yet been drawn into Order or Method by any of our Rustick Authors, I shall take care to do it, and to range them under their several Numbers and Denominations, as they serve for the Service and Improvement of Vegetation : And the first I shall mention is, the Folding of Sheep on Ground already sow'd ; and this is commonly the Case in Wheat that has not been dung'd or otherways manur'd : for this Folding of Sheep fastens the Earth close to the Roots of the Corn, and at the same time by their Dung and Urine improving the Earth, and by their Heat keeping it warm, may be reckon'd amongst one of our best Superficial Improvements ; but this being a kind of Natural Improvement, and such as is very well known to every Country Hind and Shepherd, I have the less occasion to enlarge on it, when I have observ'd that these Foldings are proper to be used chiefly on Wheat, during the Months of *November* and *December*, or in fine Weather in *January*, *February* or *March* ; for, tho' the Sheep will eat

eat it down, yet 'tis never the worse but the better for that ; in the mean time the Roots get strength, and when fine Weather comes the Corn will shoot out with new Strength and Vigour. But I proceed to the several other Dressings now in Use, and Range them in their particular Numbers and Classes ; and the first I shall speak of are Coal Ashes.

S E C T I O N II.

Of Superficial Dressing by Coal Ashes.

COAL Ashes, which I call (No. 1.) are well known to be made of *New-Castle, Scotch* and other Pit Coal ; the first Kind of which are the best, as containing a greater Quantity of Nitrous and Sulphurous Matter than other Coals do ; however, there are none of the other Kinds but what are very good, and by no means to be rejected : And it seems something strange, that so great an Improvement should have been so many Years neglected and thrown about to make Path-ways to walk on ; and, which is worse, we often see them lye on heaps about Gentlemen's Kitchens, as if they were of no use, when really, there is scarce any thing of Vegetables, but what will receive Benefit by them, being apply'd superficially and hot too near the Roots,

for the Rains washing down their Nitrous and Sulphurous Qualities, opens the Ground, and will upon the strength of Water cause it to heave in some Degree, as Lime will do after Burning, with the Application of Water: Nothing is better for Meadow Land. A Gentleman of my Acquaintance in *Hampshire*, upon laying on a Quantity, had a prodigious Burthen of Grass, even to a Miracle, but he found that he had loaded too much on, and therefore he laid only about 10 Loads on an Acre. and had a very regular, noble Crop the next Year. And in the worst Lands of all, 10 or 12 Loads are full enough; but in the covering Corn in poor sandy shallow Ground, the Coal Ashes ought to be mix'd with Mold, or, which is better, with Pond Earth; For, this not only improves, but qualifies and deepens the Soil and Manure together. And I can't but recommend the mixing of this and all other Superficial Improvements, with an adequate Quantity of Earth, at least as it will be a help to fix and receive the Salts of the Ashes, &c. the better.

Besides the use it is of to sour Meadow Land, It is also an excellent Improvement for Up-Lands and Grass Seeds, especially *Saint-Foin*, which is sown on some of our poorest Lands. And this I have confirm'd to me by a Gentleman of the *Evelyn* Family (whom I mention in Gratitude for his Kindness to me) a Relation of that great Virtuoso whom we have

have so much occasion to mention ; and that it did not only make his *Saint-Foin*, where it was laid, spread much larger than where there was none, but that also his Sheep fed upon it with the utmost Greediness, and would not, while there was any left of it, touch that which was not thus cover'd with Ashes, as being most Grass and juicy : But the greatest Improvement to those Grass Seeds that come weak at first, as *Saint-Foin* does, is the mixing of them with the same quantity of Earth as it self is ; and laying about 20 or 30 Load on an Acre, this will strengthen the Lands very much if they be poor, and will also make the *Saint-Foin* come up very strong, if it be laid on the *Michaelmas* after sowing, and so remain all the Winter, the next Grass will be gloriously strong. And indeed Superficial Dressings every two or three Year will re-invigorate in a wonderful manner ; but the Husbandman should not do it always one way, but sometimes by Sand, sometimes by Coal Ashes, &c. which will all follow in the Series of this Account.





SECTION III.

Of the Superficial Dressings, by Wood Ashes.

WOOD Ashes may be reckon'd amongst the Principal of our Superficial Improvements and Dressings, as containing a Vegetative Kind of Salt, which by Experience is very excellent on both Meadow and Corn Land, especially if hous'd and kept dry till just they are us'd; for Rains not only wash away their Nitrous Parts, but clog them up together in Heaps. And I very much recommend the Building of a long Shed, where these calcinated Dressings may be all laid in Range and Order, ready to spread on the Lands from *Michaelmas* to *Candlemas*, on Meadow and Wheat Lands, and even after that on Barly Lands, where they are poor. And these Wood Ashes I call (No. 2.) about 12 or 14 Load of which will dress an Acre of the poorest Lands. And in some Lands that are indifferently good, 8 or 10 Load will be sufficient. The Original of this Improvement are all Sorts of Wood, whether Billet, Fagot, or Brush Wood; But these are always reckon'd the best, that are made of the newest Wood, which is much better than old, dead Hedge Wood; the Nitrous Qualities of which are

are drawn off by long continuance in the alternate change of Weather. Thus much of Wood and Coal Ashes, as they are made by the common Fires us'd in a Family ; to which if you add Lime in all hot Lands, it will not be an unprofitable Manure and Composition.

S E C T I O N . IV.

*Of Superficial Manures by Kiln Ashes, or as
'tis made of Straw, Furze, &c.*

THE Malsters in all Malting Countries, especially in the *West*, where they burn Straw, use likewise these Ashes to sift over their Corn and Grass ; and this they account as good as any of their Spirituous Improvements on lightish Lands, for they are scarce solid and ponderous enough for heavy. But these ought by no means to be neglected, for being preserv'd dry in a Shed or House, they may either be us'd on Lands that are hasten'd for Meadow, or on Corn, or any other Grass Seed as before, participating as it doth with the Virtues that have before been spoke to in other of these Superficial Manures, and by their Heat, causing such a Fermentation and HOLLOWNESS and LOOSENESSE in the Mold, that the Rains more easily enter it, and dispose the

the Earth and Plants for the giving up an Assumption of its Vegetative Augment. These being light, ought to be sifted or strow'd on very kindly over Corn and Grafs; and it would be happy if the Husbandman could do it before Rain or Snow; for he must by no means do it in windy, dry, husky Weather, for the Wind will blow them all away, and then there will be no advantage to the Ground after all this trouble. About 10 or 12 Loads will be enough for a large Acre of Land, and 8 or 10 is often the most that they allow, and even 6 is sufficient in tractable Lands; but this must be left to the Discretion of the Industrious Farmer. And this Superficial Manure I call (No. 3.) laid up as I here, and shall by and by more largely, urge in particular Heaps and Classes in this our new Magazine.



S E C T I O N. V.

Of Superficial Dressings of Land with Saw-Dust.

ANother great Improvement of Land is by spreading Saw-Dust over Grafs and Corn Lands, but then the Saw-Dust ought to lye a Twelve Month till the fiery and mordacious Quality of it be gone. And it would not be a little

a little to its advantage to mix it with Earth, for when it is new, it will burn up and stain either Grass or Corn very much, but when it is brought into Order, there is no better Improvement, if spread pretty lightly on, which our Country Men are apt to undo, and thereby do more mischief than good. About 10 or 12 Load is enough for an Acre, and if mix'd with the same quantity of Earth, about 20 Load. But there are some that go a nearer and quicker way to work, to make Saw-Dust fit for sifting over Meadow and Corn Lands, and that is, by burning them; by which means they are lighter Carriage, and go a great deal farther; 6 or 8 Load being sufficient for an Acre. They are indeed something of the Nature of Wood Ashes, but are much stronger, in as much as they are mix'd with the Sap in much greater Quantities than common Wood Ashes are, the Sap naturally following the Cut of the Saw, if the Timber is any whit green; but in this as well as all Ashes and other Calcinations, the mixing of a little with them is of advantage, in case of dry, husky, windy Weather. And this let us call (No. 4.)



of the Superficial Dressings and Improvement
of Land by Turff Ashes.

SECTION. VI.

*Of the Superficial Dressings and Improvement
of Land by Turff Ashes.*

Turff Ashes come next to our Consideration; and as they may be very well got in much greater Quantity than any other Superficial Manure we have been yet speaking of (I shall not here refer to burn-baking, that being of another Kind) but shall speak of it as it relates to Turff and other combustible Mold and Manures that may be collected in High-ways, Woods, Heaths, and Commons, and reduc'd by Fire into Ashes, for the strowing over our Corn and Meadow Lands; an industrious Man would therefore leave no waste Places, High-ways, nor Corners unsought, but would pick it up and lay it in heaps and burn it, as he does the Turff in common burn-baking, and would carry it and have it ready to spread over his Corn and Grazing or Meadow Ground, as the Times usually appointed for such Works, require the fleecing up and burning, should be done in *May* and part of *June*, which will also be a proper Time to amend and repair the High-ways with Stones if a deep Country, and the taking away the Turff in all High-ways, is much

much rather an Advantage than a Disadvantage thereto. The like may be said of all waste Lands, where the Herbage is liable to be eaten up by Cattle that have no Right to be there: But if Herbage be requir'd, and there be any Infringement in what they call Right of a Common; a small Reward may purchase it, and by sowing of Hay-Seed in the room of it, 'tis as easily supply'd as the taking away Turff for the turfing of Gardens. And 'tis easy and possible for many Husbandmen and Farmers to furnish themselves yearly with 2 or 300 Load of this, which if mix'd with Lime; if for hot-liver'd Land, or with Pond Earth, or any other kind of Mold to keep it from blowing about, there may be got enough Superficial Manure to do; 50 or 60 Acres of Land in this Manner. And this I would call (No. 5.)



S E C T I O N VII.

Of Superficial Manuring of Land with Lime.

ANOTHER very profitable Manure for Land is Lime in Countries where it can be got in any plenty, especially for sandy, poor Land. And this Lime is still the better, being mix'd with Earth, or very rotten Dung; 10 or 12 Load mix'd will do an Acre, and al- low-

owing 4 of Lime to 6 of Dung, will cost about 20s. per Acre, if the Lime can be got for about 8 or 10 Groats a Quarter. But after such a Dress, I dare engage it will be 50s. or 3*l.* the better in the Production of the Crops you have there sow'd, and thus Superficially Manur'd. And, as Lime is by Nature apt to work downwards into the Ground, 'tis therefore much better to use it in this Superficial Manner than in any other; but being mix'd with Horse, or any other Dung, or Earth is much better than it is by it self; for where there is an Incorporation of these Bodies together, 'tis there they produce a proper Consistency for the Growth and Augmentation of all Sorts of Vegetables. Stone Lime is accounted the best in Agriculture, as it is in Building, and is one of the best Improvements, not only by it self simply, but mix'd and compounded with other Manures, of which something has already been laid, and more will follow in all proper Places. This last Article I call (No. 6.)





SECTION VIII.

Of Superficial Manuring of Lands, after the Corn is sow'd, by Malt Dust.

There has not been (nor is in many Places at present) any sort of Improvement so little known or used as Malt Dust, nor indeed any thing that at first Sight one would think had less Virtue in it: But there is such a natural Heat and Sweetness in it, that gives the Earth whereon it is laid, a proper Fermentation, as Experience in *Hampshire* and other Malting Countries shows; from which we may judge, that every thing that gives Life and Vigour to Land, is not of one Kind or one Principle, be they then of a saline Quality as Salt, of a hot and biting Quality as Pepper, of a sharp and sour taste as Vinegar; be they sweet as Sugar, or Molasses, or in short, be they of what Quality soever, they all help forward in the Promotion of the great Work of Vegetation, by the subtle Insinuation of their spirituous Parts into the Surface of the Earth, there causing by the Co-operation of Water, the Dissolution of those Clods that contain the Chrystalline Parts, so necessary and so often understood to reside there for the Business of Vegetation. To come home to the Nature of Malt Dust, there is

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not

not a greater Sweetner of sour Land than it, be they either natural Clays or Grounds that have by other Means contracted a Souerness and Austerity, let it happen by Water standing long thereon, or for want of Tillage and Exposure to the Air; all which are of ill Consequence to both Sorts of Lands. In all Meadow Grounds, then the Husbandman may look out for four Patches, from which few are free, and by sowing by Hand a little Malt Dust, it will sweeten them, and also all low Places where the Grass is coarse and apt to sour by Waters standing thereon. There is no manner of Meadow Land, but if it be lightly strow'd over with it, but will improve; and, were it to be procur'd in Quantities, a Husbandman would scarce think of any other Superficial Dressings. Wood and Stubble or Straw Ashes are indeed good, but no ways to be compar'd with Malt Dust. About 40 or 50 Bushels will do an Acre very well, but it must be sow'd, and mix'd with a heavy Earth to keep it from blowing away, or, if possible, just before a shower of Rain, that the Goodness of it may be wash'd in, else the husky Winds will carry it away, and render it ineffectual. Last of all, there is not a better Superficial Cover or Dress than Malt Dust for Corn, and especially Barly participating of its own Nature in the Dissolution of the Salts of the Earth, and conveying them again from the Matrix of the

the Earth, into the Stalks and Frame of the Corn. A prudent Farmer will then by no means omit to collect from his Malsters all the Malt Dust he can ; and, if he is at 14, 15, or 16 Shillings an Acre Expence in dressing it, he will by no means repent of his Charge. And this amongst all my Superficial Dressings of Land, is what I call (No. 17.) and is better than the usual way of giving it to Hogs, which is apt to breed the Mange.

SECT I O N IX.

Of the Superficial Dressing of Land by Sea-Sand.

IT is Matter of surprising Observation, that Sea-Sand, so easy to be got, should have been no more made use of, especially after *Hints* given so long ago of its Usefulness, and particularly by my Lord *Verulam* in his *Natural History*. 'Tis strange that it is not better understood or practic'd on the South Coasts of *Hampshire*, *Sussex* and *Kent*, or indeed in other more Northern Countries. *Devonshire* seems to be the Place where it is best known and us'd ; that Country, containing the most Industrious and Laborious of all others in the Arts of Husbandry that are in *England* : I

may very well add all *Britain*, their Land not being worth above 2*s.* 6*d.* or 3*s.* per Acre, and in some Places not above 18*d.* or 2*s.* 'Tis owing to their Industry, that they make it worth 20, 30 or 40*s.* And all this, without doubt, is not without a great deal of Labour. And in this Particular we are upon, they now in many Places fetching their Sand on Horses Backs, 6, 8, 10 and 12 Miles, is an Instance of their indefatigable Industry, that being at the same time so heavy, that two Bushels is the most their kind of Horses can carry, ty'd up, as it is, in short round Bags, but they have a great many go together, as the Horses in the *North* do to their Coal Pits by Droyes; so true it is, *That Necessity is the Mother of Invention.* And without which, these Hinds would certainly starve their Country, it is in many Places so poor. And it appears to me, the reason why other Countries use Sea-Sand no more, is the natural Fertility of their Lands: But, however, except in *Lincoln*, *Cambridgshire*, &c. there are few Countries but have occasion more or less for it; nay, even in the Weald of *Lincolnshire* it would be an excellent Improvement of all their enclos'd Lands, which now increase very much, the Nature of their Lands being in many Places like that of *Devonshire*. And as for *Yorkshire*, *Durham*, &c. the same may be said of them, as well as of all other Parts of the Sea Coasts where

where 'tis not us'd, and indeed scarce known, tho' so much wanted. And now, to inquire into its Properties, that Sand is best that is of a Red Colour, the Blue next; the White is accounted the worst: But in *Devonshire* they do not take of the small, washy Sand that is thrown up by the Tides, but after they have shovell'd that away, they dig into the Sides of the Bank, and take that which is of a more coralline, smallish, gravelly Kind, which lasts much longer than the other, tho' the other will last a while, Mr. *Mortimer* tells us, they spread it as soon as they bring it home; but whatever they did when that Gentleman then wrote, they now take other Methods; for their Ground being in many Places hot by Nature, they dig a large Pit, and throw in Sand and Lime together, one Load and a half, or two of Lime, to one of Sand, which after they have laid 5, 6, 7, or 8 Months more or less, or according as they have occasion for it, they take them out, and spread them on their Lands; but this way is for plough'd Lands: And for this Superficial way of Dressing, about 30 or 40 Bushels of Lime and Sand mix'd together will be sufficient; but these ought to be hous'd as for all these other Kinds. Our best Husbandmen recommend the using this, and all other such Spirituous Improvements, rather in a Superficial Manner, than to plough them in, because they are all apt by Nature to sink deep, and

as the Plough will of course bury them. And this makes our Burnt-Bakers in *Hampshire* use the Method of Rafter-Ploughing in all their lightish Lands, which would on the same Places, and for the same Reasons be a good Method for all spirituous Manures; all our Improvements in the Field, as well as Garden, having been by mistake always buried too deep. 'Tis true, these Dressings are to be repeated once in two or three Years at most; but then we must observe that the less will serve. That Sand is the best which is most mix'd with Sea Shells, and will last much longer, and if they are not in small Pieces, they should be broke with a Pounder: If after all this the Sand were mix'd with Mold, Pond Earth, &c. it would still be the better, especially in light, shallow Lands, where Depth is required, and where the fiery Heat and Salinity of the Sand is in any Danger of doing Hurt. Lands thus manur'd on the Top, will throw out double the Crop they would have done, had this not been practic'd; and the smallness of the Expence will encourage any body, especially our Gentleman Farmer in his beloved *Villa*, to attempt an Improvement of this Kind, when to it is added, that Water Carriage being every way cheaper and much better improv'd. I can't see why Sea Sand may not be procur'd in many of our In-land Countys very much to their Benefit, and after two or three Crops have been taken

taken from them, they may be laid down to Gras, which will be very excellent ; a Gentleman assuring me, that it naturally produc'd a kind of white Hony-suckle, that was very pleasant to Cattle, and made them naturally produce a great deal of Milk, if Milch Cattle, or otherwise would fatten them to a great degree. Having said what I have thought at present proper in relation to Sand, I call it (No. 8.) or the 8th Superficial Improvement that I would make in Agriculture.



S E C T I O N. X.

Of the Superficial Improvement of Land by Pulveriz'd Loame, or loamy Sand, Clay, Marle, &c.

A Nother Superficial Covering for poor Corn-Land, especially that that is shallow, is Loam, or loamy Sand, well beat and reduc'd to a Flower, or any crumbly Consistence ; and this, when spread over Corn and poor Land will keep it warm, and the nitrous Parts of it sink down and re-invigorate the Ground. And thus indeed, all stiff Loams, Clays and Marles, &c. well dried and pulveriz'd and sow'd pretty thick over Corn and Gras, will help them in a wonderful manner,

and make them bear double the Crop they would not otherwise do. If the careful Husbandman has then any such good Land as a rich Sand, sandy Loam, or any other rich Marles and Clays after his Crops are sown let him sow or sift on by Hand, or spread it on with a light Shovel, allowing about 25 Loads to an Acre. And that all stiff Clays and Loams may be the better prepar'd for Covering, it will be very proper to break it up in the Spring, and lay it drying all the Summer. Then take a Pounder, such as Apples, or Crabs, are commonly pounded with for Cyder, and beat it to a Dust, after which, being carried into the Shed or Conservatory, and mix'd with a third part of Pigeon's Dung, Coal Ashes, or Sea Sand, it will make an excellent Cover for Corn, Grafs, &c. and thus you may also use Marle and loose Chalk. And this I call (No. 9.) And thus may all the foregoing Manures and Improvements, with some few following, be reduc'd either by Calcination or Pulverisation by Art, or as they are ready done to our Hands in the other common necessary Preparations of human Life. But to go on.



SECTION XL

Of the Superficial Improvement of Land by Turff Ashes.

I Must not here omit what I have hear'd recommended, and that is, the Ashes of Turff, such as are dug for Firing in heathy Commons, and which in some Places of *Barkshire* and other Countries they have very great Quantities, there being very seldom less than three or four Bushels on a Fire at one time, which Ashes they spread over their Lands of all Sorts, where they are very profitable, especially on Clays. And for this Superficial way of Dressing we are upon, nothing can certainly be better than laying of 15 or 20 Load on an Acre, mix'd with Lime: But they must, as well as all the other Superficial Manures I have been speaking of, be kept dry from the time they are about, till the time they are us'd, else the Rains will wash away their Goodness, and clod them so together, that they can't be spread. And this I call (No. 10.) But before I quit this, I can't but Remark how 'tis possible that there should be any Virtue in Heath that grows on so jejune and barren a Land as that commonly does, and is in it self of so dry

dry, husky a Nature, and in a hot degree porous enough to assume it, contain any quantity of Nitre or Sulphur from the Air, Rain, &c. any more than what is inherent in its own Nature. This, then, is certainly the Effect of all calcin'd Vegetables, namely a fiery Heat and Fermentation, which sets the Ground to Work on the approach of Wet, by a subtle Insinuation, unlocking those surly Clods, and quickening the Sluggishness of the Earth, it being a well-known and establish'd Maxim amongst the Naturalists, *That all Fermentation* (which like a Spring in Mechanism, sets the whole Scene of Nature at Work) *is caus'd by the Interposition or Mixture of Bodies of different Qualities one with another.* 'Tis thus that Sand mix'd with Clay does well, especially where it is impregnated with saline Qualities: And 'tis thus that Coal Ashes work there so admirable Effect in loosening and mouldring stiff Clay, and, as we commonly term it, making Ruff, and Ashey, or Sandy-like. And 'tis also certain, that those Improvements are better or worse, as they abound more or less with this Nitrous and Spirituous Matter, which Coal Ashes, and next to it, the Ashes of Vegetables do more than others; and 'tis this from which all Husbandmen may judge of the Quantity that is proper for an Acre of Land, or for any Quantity more or less.



SECTION XII.

*Of the Superficial Improvement of Lands, by
burning of several Sorts of Vegetables.*

THE next Improvement I shall speak of, that is procur'd by Calcination or Burning, is a Commixture of all the Offal of Vegetables, as Wheat, Barly and Oat Straw, were they not useful in Fodder, &c. but in their Room get a good Quantity of Wheat, or any other long Stubble of Fern, Furze, Broom, Hearth, the Leaves and Cuttings of Trees rak'd out of the Garden, Meadow and Field, and especially Coppices, out of which poor People might pull great Quantities of long Grass and Weeds, and might rake up great Quantities of Leaves, Brush Wood, &c. which would very much promote the natural Growth of the Wood it self. In short, a diligent Husbandman would search every Creek and Corner where he has any Property, or can have any Leave. And when a good Quantity of these several Materials of Fern, Furze, Broom, or any other Trash or Refuse is got together, he would there set fire to them, and carry the Ashes home, and lay them up in his Store-house for Superficial Coverings, for the ensuing Seasons of sowing Wheat

Wheat and Barly. What vast quantities those Gentlemen and Farmers might procure that live near large Commons, and vast uncultivated Heaths and Woods, is obvious to every one that has made the least Observation, and is a Confirmation of that generally receiv'd Maxim, *That Nature never made any thing in vain.* In this case it would be proper to allow, 3 d. 4 d. 5 d. or even 6 d. per Bushel more or less to poor People, to collect and burn all such Trash in Summer dry Weather, or which would be more proper in the dryest Weather about *Michaelmas*, it being then they are largest of Growth, and beginning to dry, they will burn best. Of this, 'tis easy for any Farmer of Industry, in most Places, to collect 3, 4, 5, or 600 Bushels more or less as he has occasion. And this is what in course we call (No. 11.)

S E C T I O N. XII.

Of the Superficial Improvement of Land by Soap and Pot-Ashes, Soot, &c.

HERE also Nature has order'd a double Use to be made of those Materials first nam'd, as the other is the Result of good Firing and Hospitality. But these all likewise ought to be kept in this our new Conservatory

tory, to prevent the Rains from washing the Virtue of them away. The Soap Ashes are good for cold, sour Lands, for Grafs, or Corn, and especially for Wheat, but the Salt of the Pot Ashes being drawn off in a great measure by the Potters, they ought to be laid thicker on than any other Ashes; 6 or 8 Load of the first will do an Acre; but of the last, there had need be 15 or 20. But because great Quantities of this can't be procur'd, the Farmer ought to do as much as he can, and mix them with other Superficial Manures, which will give him an opportunity of observing, which amongst them all are the best Improvements, as also of the more proper and certain Quantities every Rod or Acre will require. These Manures, whether we account them simply in small Heaps as one, or blended together, I call (No. 12.) of our Superficial Dressings.

SECTION XIV.

Of Superficial Dressing of Lands, sown with Corn, by Rags, Dyer's Dung, Hair of Beasts, &c.

I Reckon all these Superficial Mantures together, that I may avoid Multiplicity, as they and every one of them are more or less effe-

effectual in the Business of Vegetation, and in the Growth and Production of Plants and Corn. The first are great Improvements to chalky, binding Lands ; such, are many of those in *Hampshire* and *Wiltshire*, and many other Places. About 25 or 26 Bushels will manure an Acre, being chopp'd small and harrowed in with the Corn, or strewed over afterwards by Hand. The Hair of Beasts is likewise very good Manure to throw over Lands, could we procure great Quantities ; but this our Plasterers rob us of. Dyer's Dung is by some accounted an excellent Improvement of Land, and two Load of it is sufficient for an Acre, but I have not seen this us'd any where. If to all that we have said, we add the waste Bark out of Tann Yards, which has a very rich Salt in it : As likewise all the other Refuse and Sweepings of the Tanners, which may be bought, I suppose, for 1 d. or 2 d. per Bushel. These, I say, all laid up in our Conservatory, and spread on Corn, must of course improve it, but for fear they should be too strong before they are corrected by Fire, and that they should not answer the Intent of Tillage soon enough, it would be well to burn them, and tho' there will be less in Quantity, it will go much farther ; 4 or 5 Load of this being undoubtedly sufficient for an Acre of Land, and much better than 20 or 25 unburnt, and will much

much change and improve the very Nature of the Land it self. These I call (No. 13.)

SECTION XV.

Of the Superficial Improvement of Lands, after they are sown, by Pigeon's and Sheep's Dung.

Pigeon's Dung has long ago been known to be one of the best Superficial Improvements that can be laid on Meadow or Corn Land, when it has lain sometime abroad, and is a little aired and sweetened, and is especially to be recommended for all cold, wet, clayey Lands; this I would also keep after 'tis aired and dried in the Conservatory, that it may be dry and fit to sow then, which it is not if it lies abroad, because it naturally clots in the wet: 'Tis best then to mix it with a little Earth, to keep it from hanging together; and when it is dry in the Summer, the biggest Clods ought to be well beat to pieces and pulveriz'd, by which means you may sow it as thin as you will, for the sowing of it too thick is a great Fault, it being naturally very hot and strong. The Dung in Hen Roosts, that of Swans, Peacocks, Partridges, or any other of the oviparous Kind, are also to be us'd after the same

same manner, as is also that of Sheep and Deer collected together, and, when they are near dry, beat and pulveriz'd together, and kept till the time they are us'd in the Conservatory. And this I call (No. 14.) Some Farmers sow this with the Corn and harrow it in, but I prefer the pulverizing Way, inasmuch as it does not fall in Heaps, but every Part has an adequate Proportion.



S E C T I O N XVI.

Of the Superficial Improvement of Lands, after they are sown, by Sea-shells.

THE last of all the Improvements of this Kind that I shall mention, are Oyster, Cockle, or other Sea-Shells, either stamp'd to pieces, or, which is the quickest way of reducing them to Manure, by Burning and Calcination. And this Kind of Manure to all those that live not only just by the Sea Coasts, but to those that live 10 or 15 Miles of, is not expensive nor difficult to be procur'd, neither is the quantity of so little account as may at first be imagin'd, and is still more useful and convenient in these Places where Water-Carriage is so easy, as it is now render'd in many Places, and would, in truth, be of much more Import for Land, than for Garden

Garden-Ground, tho' it is proper and agreeable for both. These Shells being nothing else but Salt congeal'd, when dissolv'd, are endu'd with a most fructifying Quality, and will enrich Lands for many Years together, tho' the first Year you may be very little sensible of its Effect, 'till it has been sufficiently mix'd with the moist Earth, and expos'd to the Sun. Your fower or cold Ground generally reaps the greatest Benefit from these Shells; and Sea-Sand, which has commonly Fish-Shells mix'd with it, broke almost as small as the Sand itself by the continual Flux of the Tide, is a very great Improver of Lands. The richest of all Sand is that which comes from the Greeks of the Sea; its Goodness consists in its Saltneſſ, and the Fat or Filth that the Sea gathers from Land-Floods, the Shores, the Fish, and other Things that putrify in the Water, and the Mixing of the Shells as already mention'd. This Manure is very much used in the *West Country*, where, after they have taken four Crops of Corn from it, they lay down the Ground to Pasture for six or seven Years: It causes the Corn to have a large Ear and a short Straw, so that sometimes the Ear of Barley is almost as long as the Stalk: And the Product of Grafs, after it is laid down, is very good, and, tho' short, yields great Plenty of Milk, and fattens Cattel exceedingly. There are three Sorts of Sands, the Red, the Blue, and the White, of which



S E C T I O N XVII.

Of the Improvement of arable Land by Burn- bating.

THIS Method of Improvement is call'd *Devonshiring*, as being in the County of *Devon* first invented and most practis'd: It is not proper for all Sorts of Lands, but that only which is barren, sowr, or heathy, whether it be hot or cold, dry or moist: It is done after the following Manner; You are first to get a Breast-Plough; with this you are to pare off the Turf, turning it over as it is cut, unless it be in a very hot Season; set it a little hollow, for its more easy drying; and when it is thorough dry let the Turf, be laid in small Heaps, about two Wheel-barrow Load together; and then if the Turf be full of fibrous Roots, or has a good Head upon it, it will burn without any additional Fuel; but if not, the Heaps are to be rais'd on small Bundles of Fern, Gofs, &c. that it may set the whole on Fire. When the Heaps are reduc'd to Ashes, let them lie 'til they are a little

little sodden with Rain, before you proceed to spread them ; or if it be a dry Season, and there is no Probability of Rain, you may, when the Wind is still, give them a gentle Spreading ; but if there be much Wind stirring, it will prevent their equal Scattering. In the Operation of *Burn-bating* particular Care is to be taken that the Turf be not over-burnt ; for if it be reduc'd to white Ashes, the nitrous Salt will be exhausted ; and the more moderate and regular the Fire is, the better the Salt is fix'd. The Ground under the Hills ought to be pared somewhat lower than the Surface of the Earth, to check the extraordinary Fertility occasion'd by the Fire in those Places beyond the others : And these Parings are likewise to be equally spread, otherwise it is impossible you should have a Crop of Corn of equal Growth or Goodness. Some Persons burn with the Earth, the Roots of Gofs, Broom, Stubble, &c. and others pare off the Heath and Turf, and after having made them into little Hills, fire and burn 'em to Ashes ; and into every Heap they put a Peck of unslack'd Lime, which is to be cover'd over with the Ashes, and so left to stand 'till the Rain comes and slackens the Lime, after which both are to be mingled together, and spread over the Land. This *Burn-bating* is a prodigious Improvement to barren heathy Ground ; the first two or three Years it will produce surprizing Crops of Corn, insomuch that a Man may in that Space of Time make the In-

heritage of his Land, and the Charges paid. But after 3 or 4 Years the Strength of this Improvement will considerably abate, and the Soil be less fertile than before for a long Succession of Years; so that 'tis not adviseable to take this Method of Improvement with any Land but what is of an inconsiderable Value. The Ground must be plough'd shallow, otherwise its Strength will be of shorter Duration; no more than the usual Quantity of Seed is to be sown, and that late in the Year; if it be Wheat, it must not be put into the Ground 'till towards the End of October, to prevent the excessive Rankness of the Corn.



S E C T I O N XVIII.

Of Burning of Meadows and Pasture Ground.

AS the Husbandry of Burning is necessary for the reinvigorating of barren, heathy, arable Land, so it is an excellent Improvement to marshy, cold, rushy Pasture, where the Ground is so moist, that the Hay is render'd short and sour, and other Inconveniencies arise; when this Improvement is to be commenc'd. In the Month of July or August you are to pare off the Turf, and burn it after the Manner directed in Burning of arable Land: This being done, let the Ground be plough'd up, either

imme-

immediately, or the following Spring, and sowed with Hay-Seed, or with Corn and Hay-Seed together. By this means the acid Juice, of a sterile Nature, which lay on the Surface of the Earth, and hinder'd the Growth of the Herbage, will be exhal'd, and the Grass which had a long time degenerated, by standing in a poor Ground, be totally destroy'd, and the Land restor'd to Fertility, so as to be capable of receiving a better Species brought in the Seed from other productive Soils. This Method of Burning Meadows and Pasture-Ground is certainly of the greatest Use; but the Expence and Trouble being very great, and the Improvement of Lime having got a prodigious Reputation, in respect to the Management of cold marshy Pasture, it is not at this Time so frequently practis'd as formerly, but Lime and other superficial Improvements are preferr'd.

S E C T I O N XIX.

Of Improvements by Heath and Fern.

THERE are several Particulars relating to the Burning of Heath and Fern, and the Management of the Land wherson they grow for Improvement, observ'd in several Counties of *England*, worthy to be communicated

nicated to the Reader. In *Kent* it is customary for Husbandmen to cut up the Heath in *May*, and when 'tis dry they burn it, and spread the Ashes on the Ground ; afterwards they plough up the Turf with a broad finn'd Plough, this they likewise burn, and mingling the Ashes with Lime and Sea-Sand, they also spread it over the Ground, and upon that lay a good Quantity of Dung.

About the End of *September* they sow the Land with Wheat, which they do annually for three Years ; the fourth Year they fold it with Sheep, and sow it with Barley ; the fifth, sixth, and seventh Years they sow it with Oats, and the eighth with Pease ; and after that it will bear very good Grass. In *Staffordshire* they stock up the Heath in the Summer, and burn it, mixing the Ashes with Lime, and allowing four Load to an Acre. They plough the Ground under Furrow about the Middle or End of *September*, or Beginning of *October*, and sow it first with Rye, allowing two Bushels to an Acre, the Encrease of which is commonly twenty five Bushels. After the Crop of Rye they sow Barley, next to Barley White Pease, after that Oats, and at last lay it down for Grass. Fern is one of the worst of Weeds, and hard to destroy ; but if it be cut when the Sap is in it, and left to rot upon the Ground, it is a very great Improver of the Land ; for if it be burnt when so cut, its Ashes will produce double the Quantity of Salt of any other Vegetable.

S E C T I-



SECTION XX.

Of Improvements by Claying of Land.

THE Clayey Soils are very apt to retain Water on the Surface, so as to chill the Plants and Products, yet the Black and the Yellow are very well approv'd for Corn; they hold Manure better than any other Lands, and yield the best Grain, especially where there is a Mixture of Lime-stone. But to come to the Improvements by Clay; Clay is commended as a considerable Improver of light and sandy Grounds; but it is good to try it in different Lands, both arable and pasture; and for several times, at several Seasons, and likewise in several Proportions; by which means you may find out the true Value of it, as you may by the same Method all subterranean Manures. This Claying of Ground has been practis'd many Years in some Parts of *Yorkshire*; and the manner of doing it is thus: The Clay the Inhabitants have near, and after they have bared away two Yards deep of Sand, they sink a Pit about six Yards in Depth, and eight or ten square; out of this Pit they dig Clay, of a blueish brown Colour, not sandy at all, but close, fat, and very ponderous, and that burns well for Bricks: This they do about

Midsummer, and only in a dry Summer ; allowing great Quantities to an Acre of Ground, and for three or four Years it continues in Clods upon the Land : It will last a very considerable Space of Time, for near forty Years, and then it is to be renew'd. Sandy Ground will bear no Sort of Corn but Rye, if you dress it never so well with Lime, or any other Compost ; but if once you clay it, it will produce good Barley, Oats, Pease, &c. And Barley is the most proper Grain for Land improv'd this Way, which, after the first Year, will be plump and round like Wheat.



SECTION



SECTION XXI.

Of Enclosures, Improvements thereby, Fences, &c.

Would be endless to enumerate all the Advantages arising from Enclosures of Land; wherefore I shall content my self with only observing, that it promotes the natural Fertility and Richness of the Soil, and gives the Husbandman an Opportunity of adding his diligent Care and Expence to improve it, by which Means it will furnish the Owner with a greater Burden of Corn, or whatsoever is sown therein. In the same Soil, in a common Field where there is only a Hedge between, you'll find a very great Difference in the yearly Value; and when 'tis laid down to Pasture, it yields much more Grass than the open Field Land: The Hedge-Rows not only keep the Ground warm, and secure it from the violent nipping and dry blasting Winds, to which the Champion Fields are expos'd in the Spring; but likewise afford Shelter for the Cattle both in Summer and Winter: These Hedges also supply the industrious Husbandman with Plenty of Fire-boot, Plough-boot, and Cart-boot, and if carefully preserv'd, they furnish him with Timber, Mast for Swine, and Fruit for Cyder. Enclosing

of

of Lands employs the Poor; and 'tis generally observ'd, that a Country enclos'd, maintains at least triple the Number of Inhabitants as a Champion Country, so great are the Profits attending this Husbandry. Besides these Advantages, Enclosures are not subje&t to several great Inconveniencies that attend the common Field and open Land; for such, being sow'd with Corn, are liable to Injury by Cattle, that stray out of the adjoining Commons and Highways: The Tenants or Owners of several Parts or Portions are bound to keep Time as well in Sowing as Reaping, or let their Parts lye waste, lest the Corn should be spoil'd: And when the Corn is just come up, it receives great Damage, in a wet Spring, by Travellers with their Horses to avoid a bad Road; some Years many Acres of Ground are lost in a large common Field by this Means, all which are avoided in Enclosures. The smaller your Enclosures are, the greater is the yearly Value of the Land, and the better Crop of Corn and Grass, and more flourishing Trees they produce; and the larger the Fields or Enclosures are, the more they resemble the common Fields or Plains, being subje&t to the like Inconveniencies in some Proportion: And 'tis always found, that a Farm divided into many Enclosures, yields a greater Rent than if the same were in but few. But too many Hedges and Banks in rich water'd Meadows, waste a great deal of the Land, and by their Shadow Prejudice the

Grafs,

Grass; as also by Dripping, for Grass needs no Shelter, that abiding any Weather: And in case the cold Spring keeps it back, it fears no Drought, but has Water and Heat sufficient in itself to bring it forwards; so that 'tis unprofitable in such Ground to have numerous Fences, unless proper Æquatick Plants are set, whose Shrouds exceed in Value the Grass they spoil, which may well be done in Rows, and on the Edges of the Banks, &c. and will amount to a considerable Improvement if the right Kind be chosen. We every Year experience the Benefit of Enclosures more and more; and I believe it was never so much practis'd as at this present Time. I have observ'd in several Parts of *England*, in my Travels lately, considerable Enclosures of Wastes, Commons, Downs, and other before almost useleſs Lands, which indeed have put me out of the former Road, but given me a very agreeable Prospect of the Products from the Improvement. Open Lands, of little Value, when enclos'd, till'd, and well order'd, will generally prove excellent good, and suddenly repay the present great Expence incident to Enclosures: And neither the popular ill-grounded Argument of its contributing to the Impoverishing of Land, nor the several Interests of Proprietors, nor yet Highways that frequently go over open Lands, &c. should be any Impediment to this great Piece of Husbandry. But Care must be taken to plant such Trees, and in such a Manner as they may succeed well, which leads me to treat of Fences. The

The Haithorn makes the best of common Hedges, and is either rais'd of Seeds or Plants; but sometimes they do not appear the first Year; the Haw and many other Seeds sleep two Years, and therefore are frequently dug up by the Husbandman, despairing of their Growth, before they have gone their whole Time. As to their Management, when you have bury'd your Haws in a Trench, in Beds, for Transplantation, as soon as they peep, and as often as they require it, they must be carefully cleans'd of the Weeds for three or four Years, by which Time Seedlings will be of a Stature fit to remove: After this, in Ground which is more dry than wet, (for a watery Soil is unnatural to them) place the first Row of Sets, about a Foot Distance from each other, in a Trench of about half a Foot deep, even with the Top of the Ditch, in a sloping Posture; then rais'ing your Bank about a Foot upon them, plant another Row, so as their Tops may just peep out over the Middle of the Spaces of your first Row; cover these again to the Height or Thickness of the other, and place a third Bank opposite to the first, and then finish your Rank to it's intended Height; this being done, guard the Top of your Bank, and outmost Verge of your Ditch, with a sufficient dry Hedge, interwoven from Stake to Stake, to secure your Quick from Cattle; repair such as decay from Time to Time, and after three Years growth, sprinkle some Timber or Fruit-Trees among them for

your

your Nurseries. This is the common Way of Quicking ; and the Season for this Work, is from the Beginning of *February* to the End of *March*, or from *September* to the Beginning of *December*. If you make a Fence on a Bank of Earth, as ordinarily you do on the Verges of Coppices and other considerable Inclosures, cast up your Ditch of about three Foot broad, and three Foot deep, beginning first to turn the Turf, upon which lay some of the best Earth to bed your Quick in, and there set your Plants, two in a Foot Space ; let them be fresh gather'd, streight, smooth, and well rocted, adding now and then at equal Spaces, of about twenty or thirty Foot, a young Oakling, Elm, Ash, or the like, which in Time will be ornamental Standards and good Timber. And in *Herefordshire* the Husbndmen plant a Crab Stock at every twenty Foot Distance, in their Hedges, for the Grafting of Fruit. If you would multiply your Rows, about a Foot above the first, plant another Rank of Sets, so as to point just in the Middle of the void Space of the first : And if you would fortify your Foss to the Purpose, do the same on the other Side, of the same Depth, Height, and Planting, and then cap the Top in Form of a Pyramid with the Bottom of the Ditch : Weed them constantly for 2 or 3 Years, especially before *Midsummer*. Some cut their Sets, at 3 Years, even with the Ground, to forward their Growth, and find that in a Year or two, they will have

shot

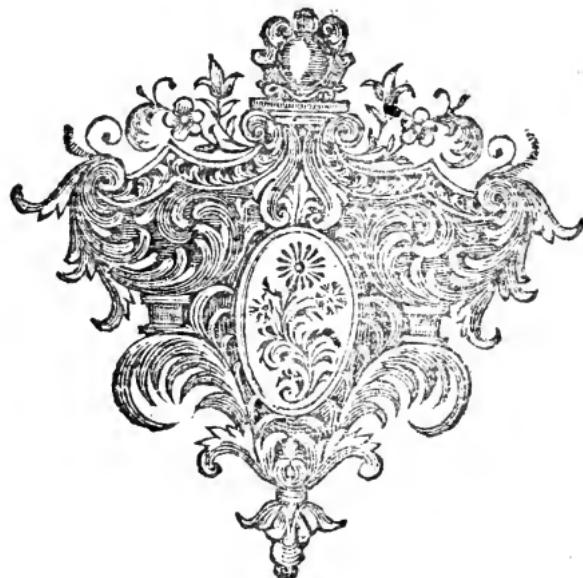
shot as much as in seven, had it been let alone. When the Hedge is about six Years Growth, get it plash'd, in *February* or *October*, by some skilful Husbandman: This is perform'd with a very sharp Handbill, in the following Manner: First, cut off all the superfluous Sprays and Straglers; then search out the principal Stems, and cut them slantways close to the Ground, so far, 'till you make them comply handsomly; that done, lay them from you sloping as you go, folding in the lesser Branches that spring from them; and at every five or six Foot Distance reserve an upright strong Set, cutting it off at the Top to the Height of your intended Hedge, and let it stand as a Stake to fortify your Work, and receive the Turnings of the plash'd Sets about it. Oak is to be preserv'd for Stakes in this Work, unless it be moist moorish Ground, when Withy, Ash, Maple, or Hazel, driven into the Ground, will do very well. This Plashing makes an impregnable Hedge in a few Years, and may be repeated as you see Occasion; but you must secure the Spring from Cattle with Thorns, 'till it is establish'd. When there are great Trees or Stubs in Hedges, with Gaps for Cattle, which are common in old neglected Fences, cut them so near the Earth 'till you can lay them across, that the Top of one may rest on the Root of the other, as far as they extend, stopping the Cavities with their Boughs and Branches. In *Cornwall* the Husbandmen secure their Wood and Lands with high Mounds,

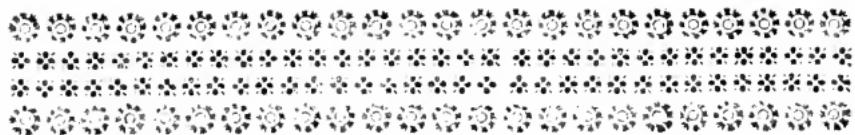
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on which they plant Acorns, which shoot so vigorously as to form a double, durable Fence. They likewise make Hedges of prickly Furzes, which are extraordinary Fences. Furz is propagated by Sets or Seeds, and will make a Hedge in three Years Time, if it be kept well weeded, and secur'd from Cattle, (especially Sheep, which are great Devourers of it) 'till it attain some Bigness, and then nothing can injure it: If clipt it will thrive extremely, and be very thick; but if it be permitted to grow at large, it will prove the better Shelter, and yield excellent Fuel: 'Tis also an admirable Covert for Game, and prospers in moist as well as dry Soils, tho' it is most proper for old dry Banks, or such a dry Sand or Gravel, that nothing else will grow on't. When you plant any of the most robust Forest-Trees, especially the Oak, at competent Spaces in Fields or Meadows, it is a very good Method to open a Ring of Ground, at about four Foot Distance from the Stem, and prick in Quick-set Plants, which by Clipping may be kept of what Height you please. These Hedges will be very beautiful to the Eye, prove a good Fence, and yield useful Bushes, Haws, &c.

If a Piece of Ground in a common Field cannot possibly be enclos'd without great Expence and Difficulty, I would advise the sowing of it sometimes with Clover: This will certainly invite all the Sheep of the whole

whole Field to that Pasturage, when the Harvest is over, where they will, of Consequence, drop their Dung, (the best Soil we are Masters of for Corn-Ground) and on the next Ploughing it will be turn'd in; and by the very great Increase of the Crop of Corn the ensuing Year, very well recompense the Expence of Clover-Seed.





C H A P. IV.

Of Ploughs and Ploughing, &c.

S E C T I O N I.


 F all the Instruments and Engines us'd in Husbandry, the Plough is the most considerable; and of these there is a great Difference about their Make and Shape, every Country being fond of its own Invention. It is a needless Task to attempt a Description of all Sorts of Ploughs us'd in the several Parts of *England*, neither would it be for my Purpose, to examine into the various Methods of forming this Engine, by whimsical Persons, who oftentimes seek Curiosity more than Profit; so that I shall only take Notice of the most usual Instruments of this Kind, and at the same Time set forth their particular Advantages and Defects. The Ploughs esteem'd best for each Sort of Land are as follow: For stiff black Clay, the Plough that is large, long, and broad, having a deep Head, and a square Earth-board, so as to turn up a large Furrow; the Coulter long, and a very little bending, with a large

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Wing ; and the Foot long and broad, so as to make the Furrows deep, is esteem'd the most proper. The Plough for white, blue, or grey Clay, need not be so large as the former ; but somewhat broader at the Breech, the Coulter long and bending, and the Share narrow, with a Wing coming up to arm and defend the Earth-board from wearing. And the Plough for red or white Sands, or Gravel, or any light Moulds, may be lighter and nimbler than the latter, the Wing not so large, and the Coulter thinner and more circular : Thus much in general ; I come now to describe the particular Ploughs accounted the best for Tillage. The One-Wheel-Plough may be made Use of almost in any Sort of Land, being a great deal lighter than other Wheel-Ploughs, and with which, being drawn by one Horse, and held by one Man, one Acre a Day may be plough'd in a moist Season. The double wheel'd Plough, us'd in *Hertfordshire* and elsewhere, is the strongest, and apparently one of the most preferable Ploughs for many Uses ; 'tis also of the easiest Draught, and suits best with all Sorts of Soils, except miry Clay in the Winter, which is apt to clog the Wheels : And even for those Lands, it is the best Instrument to plough up Lays or Summer Fallows with ; because it turns in the Turf after the most convenient Manner, and cuts up Mole-hills or uneven Ground without levelling. The Wheels of this Plough are eighteen or twenty Inches high, and

and the Furrow-Wheel is sometimes larger than the other that goes on the Land: It is usually drawn with Horses or Oxen, two on a Breast. The *Colchester* Plough is a fine light Wheel-Plough, with which and two Horses the Husbandman can cut up two Acres in a Day of their light Ground: This Plough has a very peculiar Iron Earth-board, made rounding, which helps to turn the Earth or Turf much better than any other Sort of Ploughs that has been as yet invented. The *Kentish* Plough is double wheel'd, and somewhat clumsey. The *Suffex* single Wheel Plough, is of a different Make from most other Ploughs, and more clouterly; It is very wide in the Breech, so that the Draught of Consequence must be hard. The *Lincolnshire* Plough is singular in its Shape, and very good for marshy or fenny Lands that are subject to Weeds and Sedge; but the Ground must be free from Stones, by reason of its Coulter and the Largeness of the Share, which is commonly made very sharp, and above a Foot broad. The most common plain Plough, call'd the Dray-Plough, made without either Wheel or Foot, is of an easy Draught, and the best Plough in the Winter for miry Clays; but the worst in Summer, when the Surface of the Earth is hard: It is set higher or lower, as Occasion serves, by Wedges. The *Caxton* Plough, invented to cut Drains with in stiff miry Clay Grounds, is like another Plough, only much larger and stronger: It

has two Coulters, bending inwards, to cut each Side of the Trench; the Share is very broad and flat, and cuts off the Bottom of the Trench; and the Mould-Board is three Times the Length usual in other Ploughs, to cast the Turf at a Distance. These are the several Sorts of Ploughs us'd in Tillage, to which I may add the double Plough, (which is where one Plough is fix'd to the Side of the other) that with two Men and four Horses, will plough up a double Quantity of Land in a Day, one Furrow by the Side of the other. Besides this, there is another Sort of Plough, whereby two Furrows may be plough'd at once, one under another; and the Ground is stirr'd up twelve or fourteen Inches deep, which is of great Use. The only foreign Plough I shall mention, is the *Spanish* Plough, with one of which and one Beast, the Husbandmen of *Spain* plough up two or three Acres of their light Lands in a Day: For the Use of the particular Parts of a Plough, the Coulter is a sharp turning Wheel, that cuts the Roots of the Grafs or Sedge a-cross by its Motion, as it goes round, and the broad Share likewise cuts the Bottom of their Roots at the same Time: The Coulter, where the Land is stiff, must be the larger and the stronger, and go the deeper; for in deep Grounds the Weeds root the deeper; and for the better cutting up of them, it is usual to set on the right Side of the Coulter a small Wing, or Fin, which severs the Bottom

of the Roots in two, and eases the Draught of the Plough. Ploughs, in general, are to be great or small according to the Depth and Strength of the Soil you plough, as has been already observ'd, and as the Earth is wet or dry; on which Account every Farmer ought to have several Sorts of Ploughs. Care is to be taken in the making of Ploughs, to have them go true to the Pitch they are set, and keep to the Line they are in, without swerving to the Right or Left, which depends very much upon the exact Formation of the Iron Work. A short Plough, or a Plough with a broad Breech, cannot go so easy after Cattle as a long narrow one, and the latter may be made to turn a Ridge equal to the former.

Having now given you a Description of the various Kinds of Ploughs, I proceed to Ploughing; but first I shall set forth the particular Business of a Ploughman. A Ploughman, or Carter, ought perfectly to understand Cattle, the Goodness of Corn, and the Nature and Quality of all Sorts of Ground, to which he is to have a just Regard, the Seasons of the Year, and the Customs and Usages of the Place where he resides: He ought to consider well how to lay and dispose of his Furrows, of what Depth he should plough them, and by what Means he may be able to raise the greatest Share of Mould, all which his own Experience will best teach him: He is to chuse and order his Cattle for the Diversity

of Grounds he is about to till; wherein, if his arable Land lies against the Side of a steep Ascent, as commonly barren Earths do, he is not to plough that Land directly against the Hill; for this very Labour would unavoidably breed such a Wearisomness in the Cattle, besides the Over-heating and Danger of Surfeiting, that there would be no going through with the Work: The Ploughman must therefore take Care to plough such Ground side-ways overthwart the Hill, so as the Beasts may tread as near as may be on the level Ground, and never directly up and down, by this Means the Cattle will not only perform their Work without Injury, but also the Lands be the better preserv'd; for the Compost or Manure laid upon it, will not be so soon wasted away from the upper Part, by reason the Furrows, being turn'd crossways upwards against the Hill, will necessarily hold the Soil within it much better than if they were laid straight down in an even Descent. A Ploughman, thus qualify'd, being chosen, and observing these general Rules, I come next to the particular Management. If your Work be ploughing of Layes, which is the first cutting up of Grafs Ground for Corn, you are to commence your Labours in *January*, when the Land is wet; and the Turf being then tough, will hold to turn without breaking, in the exact ordering whereof consists the greatest Difficulty with Relation to this Sort of Ploughing: This Performance de-

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pends very much upon the Make of the Plough; for the better ordering whereof, if the Earth-board does not turn the Turf well, some Nail upon it a small Piece of Wood, to take the upper Part of the Turf as it rises on the Earth-board, which will cause it to fall over with the Grass Side downwards, and lay it so flat and true, that one can scarce discern where the Plough went. In the Ploughing of Fallows, (which is a considerable Benefit to the Land, and few Soils will bear more than two or three Crops without it) let your Ground lye all the Winter, so as the Sheep may eat off what Grafs and Weeds grow on it in *April*, or the Beginning of *May*; then, as soon as you have done sowing of Corn, begin to plough up your Fallows: This first Fallowing in most Places ought to be very shallow, and the Land well turn'd, and kept close together; for the thinner the Turf is, the sooner it will dry through and kill the Weeds, especially if the Weather be seasonable and not too moist: But in some Places where there is a very cold Clay, that will not bear Corn well without being expos'd to the Heat of the Sun, it is necessary to make the first Ploughing of the whole Depth you design, that the Ground may be the more effectually warm'd. The second Ploughing, which is call'd Twi-fallowing, is usually in the Month of *June*, when you are in all Cases to go your full Depth: This Ploughing is generally perform'd with the Team early

in the Morning before the Dew is off the Grafs, that so the Labourers may have Time to feed their Cattle, before they repair to carrying of Hay in the Afternoon, which may be done at the same Time. About the latter End of *July*, or the Beginning of *August*, is the Season for the third and last Ploughing, call'd Tri-fallowing; this is done just before you sow your Wheat or Rye; and if the Land rises full of Clots, or be a binding Soil, you are to make it fine by Harrowing upon the Approach of Rain; but then it must not lye long before you plough it up into small Ridges; and, as near as you can, leave no Weeds or Grafs-Turfs unkill'd or unbroke with your Harrows; because they sour your Land, and cause the Mould to lye hollow from the Roots of the Corn. If your Ground be a heavy Clay, it ought to be plough'd up in a Season as dry as you can possibly chuse, to prevent the Encrease of Weeds, which would be otherwise unavoidable; but Stone-brash and light Soils are to be till'd in a moderate dry Season: And if the Ground be moist and design'd for Wheat, it is good Management to lay the Furrows high and shelving between, and not far asunder, for the more effectual Draining off the superfluous Moisture, which at some Seasons in the Year is very pernicious. Where Land is but indifferent, and Manure is not to be had, Fallowing every other Year is found a

great

great Improvement, and is a very ancient Piece of Husbandry, as we are inform'd by *Xenophon, Pindar, &c.* In some Parts of *England* the Farmers fallow their Land after they have taken two Crops, the first of Wheat, and the second of Pease: In *Staffordshire* it is a frequent Practice to give their Lands a Winter Fallowing, besides the three Summer Fallowings, and to lay their Land up in Ridges when they sow Barley, which seems to be the Method mention'd by *Virgil.*

*The greedy Villager likes best that Mould,
Which twice has felt the Sun, and twice the
Cold.*





SECTION II.

Of Sowing all Sorts of Grain

IN all Sowings great Regard is to be had in to make Election of good and proper Seed. It is adviseable for the Farmer to procure Seed from a worse Soil than his own; but if he cannot get such, 'tis more profitable to have it from good Land, than not to have Change; for all manner of Seeds degenerate very much when they are sown long upon any Land, tho' most upon bad Ground.

If you obtain Seed from a distant and opposite Part of the Kingdom, as from the *North* to the *South*, you'll find the greatest Improvement, and the farther *Northward* the greater still will be the Advantage. The Reason why Variety of Seed is beneficial to Land, is this: Every Sort of Grain draws from the Earth only its proper Juice for its Nourishment; so that the Sowing of the same Grain often, exhausts and weakens the Ground, by still attracting the same Kind of Salts, one Crop after another. When you have chose a proper Seed, the next Thing to be consider'd, is the agreeable Soils, Seasons, and Quantities, observ'd in sowing all Sorts of Corn. The Clay and Sandy Soils are generally esteem'd

esteem'd the best for Wheat, this Corn always requiring a substantial Earth: The Season for sowing of Wheat is about *Michaelmas*, a Month before or a Month after. If you commence your Sowing before *Michaelmas*, two Bushels to an Acre will be a sufficient Quantity well manag'd; but if you do not begin this Work 'till after *Michaelmas*, it will be necessary to give your Ground two Bushels and an half an Acre, otherwise you may be disappointed in your Crop: For in all Cases of Sowing, the later your Season is, the greater Quantity of Seed must be allow'd; and dry Ground cannot be sown too soon in a proper Season, that the Corn may come to Maturity in a cold Summer. Light gravelly Soil is the most proper for Barley and Oats; and it cannot be over rich for this Grain, tho' it may for Wheat. The Season for Sowing of Barley is the Month of *April*, and your Quantity ought not generally to exceed four Bushels to the Acre, unless you are very late in your Sowing. The Season for sowing of Oats is any Time in *March*, and the Quantity of Seed may be from three Bushels and an half to four Bushels the Acre; wherein you may observe, that if the Ground be light, the less Seed will suffice, because such Land is less subject to Weeds than any other. Moist heavy Clay Ground, not fit for Corn, is most agreeable to Pease and Beans: You are to sow these Sorts of Grain in *February*, after the Rate of four Bushels to the Acre. New-broke

broke Ground ought to be sown with several Sorts of Grain, before it will be fit to receive Wheat: The first Year you may sow it to Oats, the second to Barley, and the third to Beans or Wheat: And Beans and Pease are excellent to kill the Weeds, and prepare your Arable for the more noble Sorts of Grain, particularly Wheat. It is usual in many Parts of *England*, to sow Hop, Clover, and Ray Grafs, amongst Wheat or Barley at the same Time with it; this will not only enrich the Ground, by the Soil of Cattle feeding on it, for a constant Tillage, but likewise expeditiously bring plough'd Ground to a good Sword, if you intend to lay it down to Pasture; an Acre of Ground will require ten Pound of Clover-Grafs Seed. *French* Grafs is also a very great Improvement to the Herbage of some Ground: The Soil for this Seed ought to be a moist Gravel, but not too wet, and pretty rich: It must not be fed with Sheep.

Clover Grafs is esteem'd the principal of Grafs, both for the great Improvement it brings by its prodigious Burden, and by the Excellency of the Hay for Food for Cattle: One Acre of it will feed as many Cows as six Acres of other common Grafs; the Milk will be much richer, and more in Quantity; and it will fatten well. This Grafs may yield three Crops in a Year, and, after all, be Food for Cattle in the Winter. When it begins to knot, which will be about the Middle of *May*, the first Crop, it is to be cut; and if it grows not

not too strong, it will be exceeding rich and good. For the Time and Manner of sowing it, when the Land is manur'd, first sow your Barley or Oats, and harrow them; then sow the Clover Grafts pretty thick, and harrow it over likewise; the Corn, in this Case, is to be thinner than ordinary.

All Summer Corn does best in a dry Season except it be black Oats, which require more Moisture than any other Grain; but a very dry Spring is fatal to new-broke Ground the first Year. I omitted in the Section of Plowing taking Notice, that tho' three Earths are necessary for Wheat, yet two Earths will serve for Barley, and one for Oats is sufficient just before sown: And that Regard may be had to the Strength and Nature of the Land; for rich heavy Ground cannot well be plough'd too often, to make it light and the better Manure, by killing the Weeds, as light poor Ground cannot be plough'd too seldom, for Fear of impoverishing it. Wheat cannot well be put into the Ground in a Season over wet, and Rye cannot be sown too dry:



C H A P. V.

*Of Improvements by Draining
of Fenny Lands, &c.*

HERE are two Sorts of Fenny Lands, *viz.* those as are constantly wet, only in a dry Time shallower than in a moist Season, and those that are only casually drown'd by up-land Floods and great Rains: The last are generally of a very large Extent, and situate upon a Level; so that the Water cannot run off from them, but it remains 'till the dry Weather occasions it to be suck'd up. In draining either of these Sorts of Lands two Things are to be consider'd, either the laying of them absolutely dry, or diverting of the Land-Floods, Rains, &c. The former makes a perfect Cure, and is effected thus: If your Grounds lye between Hills, which have generally Descent enough to drain them, but have Springs pent by a Weight of Earth, that dams in the Water, sometimes causing it to spread on the Ground so far as it is soft; in the drain-

draining of such Lands, you are to observe where the lowest Place is, and what Descent it has, that so the Earth may be cut deep enough to convey all the Water away from the Bottom of the Bogg; and it must be cut a Spit below the Springs, or else the whole Work will be to little Purpose. In the digging of this Drain you are to begin at the lowest Place, and so carry it towards the Spring-Head, where you must make such Trenches, either round or crossways, as you shall find necessary for the absolute draining of your Land. For the draining of flat Levels from Land-Floods, and low Fenns, whereby the Water is diverted, and the Ground render'd serviceable, you are likewise to consider the lowest Part of the Ground, and to carry off the Water that Way before you attempt a thorough Draining. When this is taken Care of, then proceed to make your principal Drains, which are to be cut wide, and deep enough to carry off the Water from the whole Level, and as streight as is possible, conveying all your small Drains into the middle one, which is the chief Article of the Work; always observing to make the Drains largest at the Mouth, and to narrow them by Degrees, as they run more into the Lands. These Drains are to be well cleans'd from Mud and Weeds the *Spring* and *Fall*. In the Fens of *Lincolnshire*, it is usual for Occupiers of Lands to erect a particular Wheel for Draining, turn'd with large

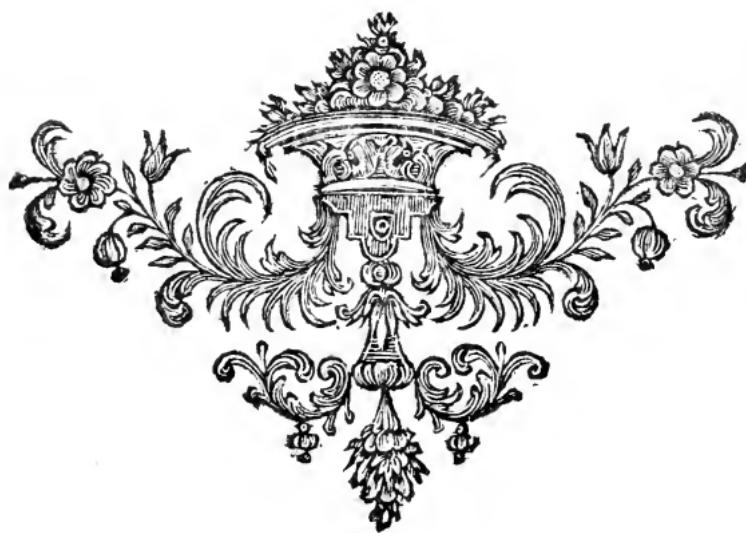
large Windmil-Sails, and made proportionable to the Strength that is to drive them; so that a great Quantity of Water may be row'd along upon a Flat, where it is not to be rais'd to any Height: For this Purpose the Spoaks are made broad and set a little sloping, to row the Water more readily; and they are exactly fitted to move between two Boards: But when the Engine is to raise the Water any small Height above the Level, the Spoaks are made hollow like Scoops, and set so, as to deliver the Water at the Height intended: And if the Place require the Casting of it over a Bank that is of any considerable Height, the Ends of the Spoaks are to be form'd like Boxes, which, as the Wheel rises, let the Water run into the Circle made hollow to receive it, and a Channel being cut on the Back of the Spoaks, delivers the Water as the Wheel descends. As this Wheel is effectual for draining of Lands, so an Engine call'd the *Persian Wheel*, will raise a Quantity of Water sufficient for Overflowing of Lands that border on the Banks of Rivers, where the Streams lye so low, as to be incapable of doing it. " This " Wheel may be made of any Size, according " to what Height you would have the Water " convey'd, and the Strength of the Stream " that gives Motion to the Engine. One Sort " of these Wheels is made after the manner of " an under-shot Mill, with a double Ring, " into which are let two Pins, whereon the

" Floats

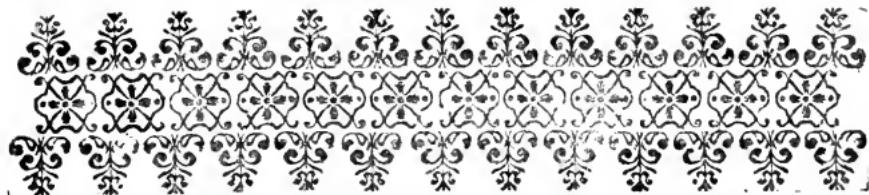
“ Floats are fasten’d, which are made hollow ;
“ the half that is most remote from the Wheel
“ holds that Water which is taken in at the
“ open Place above the Middle of the Back of
“ the Float ; and as the Wheel goes round,
“ and the Float laden with Water rises, so
“ the Water by Degrees tends towards that
“ Part of the Float which is next the Wheel :
“ As the Float surmounts the Cistern or Re-
“ ceiver, the Water discharges it self into it,
“ every Float succeeding each other, and all
“ emptying themselves into the Receiver ;
“ so that if one Float contains a Gallon of
“ Water, and there be thirty Floats on the
“ Wheel, at one Motion round it delivers
“ thirty Gallons of Water into the Cistern.
“ Such a Wheel may be about fifteen Foot
“ Diameter, and the Floats at eighteen Inches
“ Distance, so as to throw out the Water
“ eleven or twelve Foot above the Level of
“ your Stream. The Wheel will go round
“ four times in a Minute, and carry up a-
“ bout one hundred and twenty Hogsheads of
“ Water in an Hour, only by penning or stop-
“ ping an ordinary Current. This Engine
“ will very well water thirty or forty Acres
“ of Land ; it works constantly, and will last
“ many Years without Repairs, so as it be
“ not permitted to stand still ; for then one
“ Side would grow dry and lighter than the
“ other ; and the flower the Motion is, the
“ better the Water is deliver’d.” The Drain-

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ing, and Overflowing of Lands, make both very considerable Improvements; the former done on a fenny, marshy, sowr, Pasture, to preserve it from Rushes, and render it healthy; and the latter is usually practis'd on Meadows, and indeed generally affords the greatest Advantage to the Owner.



C H A P.



C H A P. VI.

Of Hops and Hop-yards, and their Management.

HIS is one of our most profitable rural Employments; but it comes more under the Cognizance of the Gardener than the Husbandman; every Possessor of a Plot of Ground being capable of managing a Hop-yard without the Expence of Ploughs, Cattle, &c. for its Culture, (not but the Charge of keeping a Hop-Garden in Repair is very considerable) and by manual Industry, with the Use of the Spade and Hoe, to go through the several Particulars of this Business. The very great Estates acquir'd within an Age past in the Merchandize of Hops, is a sufficient Encouragement to all industrious Persons to venture on these Plantations; and besides the uncommon Profit, they employ a greater Number of Poor than any other rural Affairs whatsoever. The Planting, Soiling, Digging, Hoeing, Polling,
S 2 Tying,

Tying, Picking, &c. render a great many Hands not only of Men, but Women, and Children, necessary in their Dispatch: And the Business, for the most Part, is so little laborious, that those Persons as are unfit for many other Employes, may follow it with Pleasure: I have known at least thirty Pounds *per Annum* made, clear of all Expences, from an Acre of Ground, and a Garden, of a considerable Extent, contain the same Quantity *per Acre*, one Acre with another. This has occasion'd me to view the noble Plantations at *Farnham* with the greatest Satisfaction: The Neatness and Exactness of these Gardens make them appear like regular Woods or Groves. And in many Parts of *Hampshire* the Inhabitants are so very sensible of the Advantage arising by these Plants, that their Gardens are fill'd with 'em; and there is nothing more common, than to see Hedges in distant Fields entirely surrounded with Hops. But to proceed to their Management: This Plant delights in the richest Land, and a deep light Mould, the same being better if mix'd with Sand; and a black Garden Mould is excellent for it: A Piece of Ground a little inclining to the South, the Soil being mellow and deep, and having Water near at Hand, in the Summer, will do very well: And indeed most Sorts of Lands will serve for Hop-Gardens, except it be stony, rocky, and stiff Clay; but if for Want of a better Soil you are necessitated to plant in a cold, stiff, sour, or barren Land, the best and

and most proper Means is to burn-beat it about the End of *September*, which will occasion a very great Improvement: However, let your Ground be in what Condition it will, Care must be taken in the Beginning of Winter to till it either with the Plough or Spade. As for the Planting of Hops, some do it in Squares, Checker-wise, which is most convenient, if you intend to plough with Horses between the Hills; others, in Form of a Quincunx, that is better for the Hop. Which Way soever it be, pitch a small Stick at every Place where there is to be a Hill, after assigning the Distances, and laying out the Rows by Line and Measure; and when that is done, in case the Ground be poor or stiff, let some of the best Mould that can be procur'd, or a Parcel of the best Dung and Earth mix'd, be brought into the Garden; at each Stick dig an Hole of about a Foot square, and fill it with this Mould or Compost, wherein your Plants are to be set. The Distance of the Hills, in hot dry Ground, may be five or six Foot only; but in moist, deep, and rich Mould, which bears large Hops, you must place them seven or eight Foot asunder; and so, according to the Goodness of the Ground, you are to lay out the Hills. As for Composts for the Hop-Garden, if the Dung you intend to use be rotten, it must be mix'd with two or three Parts of the common Earth, and so left 'till the Spring, and that will serve to make up the Hills withal: Your Dung is not

to be new, which is injurious to Hops; and that of Horses, Cows, or Oxen, tho' very good, is not to be compar'd with Pigeons Dung, a little of which laid to a Hill and mixt, that it may not be of too great Heat in a Place, is of very great Advantage. Sheeps Dung is also very good; so that if some of it, with Pigeons Dung, be steep'd in Water 'till it is quite dissolv'd, and a Dishful of it pour'd into the hollow Place at the Top of every Hill, instead of common Watering, the Virtue of it will immediately penetrate to the Roots, and prove more expeditious for Enriching of Hop-Hills, and less expensive, than any other Way whatsoever.

Your Ground being laid out and soil'd, we come to the Planting of Hops, wherein these Things are to be consider'd; the Choice of Sets, the Pruning, and the Season for planting. The most proper Time of Planting Hops is in *October*, before the Approach of the cold Weather; and this Work must not be deferr'd too long, that the Plants may have Time to settle before the Spring. In the Choice of your Sets, the largest, of about eight or ten Inches in Length, and having three or four Joints or Buds in each Plant, are to be preferr'd; but the Roots that grow downwards are not to be cut. These Plants are to be put into the Holes (prepar'd for them before taken out of the Ground) at each Corner of the Hole to be one, and the Earth to rais'd two or three Inches about them, unlesfs you

you plant so late, that the green Sprigs are shot forth, when they are to be cover'd lest you destroy them. The Hills are not to be too high the first Year; but to be encreas'd in Extent, as the Roots of the Hops encrease in Stature, and produce great Quantities of Shoots to require it: It is the same of Poles; for the first Year two small Poles will suffice, the next Year there must be two or three large ones, and the third Year four of the largest Poles will be necessary to support the Crop, if your Hops are large, in a thriving Condition, and the Hills are so far asunder as to have Room for them. In the Management of old Hops, if they are worn out of Heart, you are to dig them about the Beginning of Winter, taking away as much of the old barren Earth as you can, and putting fat Mould instead thereof; but if the Hops are strong and in good Heart, Manuring and Pruning is most adviseable; for this perfectly restrains them from a too early Springing. In the Dressing of them, you are to pull down your Hills, and undermine round about 'till you come near the principal Roots; then take the upper or younger Roots in your Hand, and shake off the Earth, which being remov'd with the same Tool, you'll discern where the new Roots grew out of the old Sets: Be careful not to injure the old Sets; as for the other Roots they are to be cut away, neither need they be spar'd to the Delay of the Work, except it be such as you intend to plant: No

more of the Roots must be uncover'd than the Tops of the old Sets in the first Year of cutting, and at what Time soever the Hill is cut down, the Roots are not to be cut 'till *March*. At the first Dressing all such Roots or Sprigs as grew the Year before out of your Sets, are to be cut away within one Inch of the same ; and afterwards, yearly, they must be cut as close as can be to the old Root, unles's it be a weak Hop, when some principal new Shoots are to be left at Dressing. The old Roots are red, but those of the last Year are white. The Root being dress'd, the rubb'd Mould is to be apply'd ; and in Dressing, as in Planting, the down shooting Roots are not to be medled withal, nor the Hills to be made too high at first. When the Hops appear above Ground, you are to begin to pole them, and not before ; for 'till then you cannot judge where the largest Poles will be necessary : In the doing of this, it is good to let the Poles lean outwards ; and to set them towards the South, is esteem'd a good Piece of Husbandry. When the Hops are shot two or three Foot out of the Ground, the next Business is to conduct and tye them to such Poles as are fit for them ; this must not be deferr'd, and in the doing of it, you are to be sure to tye your strongest Shoot to the largest Pole, and not to fasten them so close to the Pole, or with such Tackle, as to gaul them, large coarse Yarn being esteem'd the best Bandage for that Purpose. About *Midsummer* they begin

gin to leave running at Length, and then to branch ; but such of them as are not at that Time got up to the Tops of the Poles, should have their Tops nipt off, or else diverted from the Pole, that they may branch the better, which they will do much more than if they were permitted to extend in Length. In *May*, after Rain, it will be sometimes necessary to make up the Hills with a Hoe or Spade, or by Ploughing to destroy the Weeds ; and in a dry Spring they ought to be water'd ; for which Reason it is prudent to situate your Hop-Garden near some Rivulet or Stream, or, for want of this Convenience, dig a Well from some Pond made with Clay, in the lower Part of the Ground, to receive hasty Showers by small Aqueducts leading to it, which is the best approv'd Water of any for this Purpose. After every Watering, (which need not be above twice or thrice during the Summer, provided it be thoroughly done) take Care to make up the Hills, wherein Holes for the Water were made, with some of the Parings of Earth, and the Weeds and coolest and moistest Materials that can be got. Towards the End of *July*, or Beginning of *August*, Hops begin to blow, 'till which be past, they are not out of Danger from Blights : In forward Years they are sometimes ripe at the latter End of *August*, and if they are not then in full Maturity, they are so always early in *September*. When they look a little brownish, gather them without Delay, but not while they are wet ;

wet ; and if the Dew be on them, or a Shower of Rain has taken them, shake the Pole and they'll dry the sooner. If they be over-ripe, they'll be apt to shed their Seed, wherein consists their chiefest Strength ; neither will they look so green as otherwise they would do, but somewhat brown, which much lessens their Value ; tho' the longer they stand the less they waste in Bulk, and the more they encrease in Weight. The most expeditious and safest Way to gather them, is to make a Frame with four short Poles or Sticks laid on Forks driven into the Ground, of that Breadth, as to contain either the Hair-Cloth of your Kiln, or a large Blanket tack'd round it about the Edges. On this Device the Poles with the Hops on them may be laid, being either supported by Forks, or the Edges of the Frame ; at each Side whereof the Pickers may stand or sit, and pick the Hops upon it. When the Blanket or Hair-Cloth is full, untack it, carry it away, and place another, or the same empty'd, in the same Frame again ; and this Frame may be daily remov'd with little Trouble to some new Station, for Convenience in the Work.

As fast as the Hops are pick'd they must be dry'd ; the *Flemmings* and *Hollanders* erect an Oost or Kiln on purpose for this Busines ; but we commonly dry them on an ordinary Malt-Kiln in a Hair-Cloth ; tho' some Persons are at the Trouble of making a Bed of flat Ledges about an Inch thick, and two or three

three Inches broad, sawn and laid one a-cross the other, checkerwise, the flat Way, the Distances being three Inches or thereabouts; the Ledges are to be so enter'd and put one into another, that the Floor may be even and smooth: This Bed may rest on two or three Joyces set edgeways to support it from sinking; then cover it with large double Tin folder'd together at each Joint, and so order the Ledges before they are laid, that the Joints of the Tin may always lie over the Middle of a Ledge; and when the Bed is wholly cover'd with Tin, fit Boards about the Edges to keep up the Hops, only let one Side be so order'd, to remove upon Occasion, that they may be shov'd off as before. The Hops may be turn'd on this Tin-bed, or Floor, with great Safety; and not only a small Expence of Fuel will do, but any Manner of Fuel serve in this Case, as well as Charcoal, and the Smoke not passing thro' the Hops: But Care must be taken to make Conveyances for it at the several Corners and Sides of the Kiln. The easy turning of Hops is a Waste and Injury to them, and an Expence of Fuel and Time: It is best to have a Cover to the upper Bed whereon the Hops lye, that may be let down and rais'd at Pleasure; this Cover may be tiun'd over, by nailing single Tinn-Plates to the Face of it, that when the Hops begin to dry, and are ready to be burnt, you may let down the same within a Foot and less of the Hops, which will reflect the Heat upon them, that the

the uppermost Hop will be as soon dry as the lower ones, and all of them be equally dry'd. When your Hops have lain about a Month after drying, on a boarded Floor, to cool and grow firm and tough, you are to proceed in their Bagging: First, you are to make a round or square Hole in an upper Floor, big enough for a Man with Ease to go up and down, and to turn and wind himself about; and it is generally fitted to the Mouth of the Bag: Then tack a Hoop about the Mouth of your Bag fast with Pack-thread and a Pack-Needle, that it may support the Weight of the Hops when full, and of the Person that treads them: This done, let the Bag down thro' the Hole, and the Hoop will rest above, so as to keep the Bag from sliding wholly thro. Into this Bag cast a few Hops, and before you go in to tread, let an Handful of the Hops be ty'd at each lower Corner with a piece of Pack-thread, to make as it were a Tassel, whereby the Bag, when full, may the more conveniently be lifted or remov'd: Then go into the Bag, and tread the Hops on every Side, another still casting in as fast as you require, 'till it be full. When 'tis well trodden and fill'd let the Bag down, by unripping the Loop at Top, and close the Mouth of the Bag, filling the two upper Corners as you did the lower: Hops thus bagg'd, and well pack'd, will keep several Years in a dry Place, taking Care that they receive no Injury by Mice; for tho' these Vermine will not eat them,

them, yet will they make their Nests in 'em, and thereby do you a considerable Damage.

I am come now to a Conclusion of my Work; and if I have, towards the latter End, touch'd upon some Subjects which I did not seem to intimate in the Beginning, I doubt not but they will be excusable, since it was the more effectually to mix the profitable Part of Gardening with that of the pleasurable, and to persue the Improvements of Lands in the utmost Latitude. This I was advised to by my Friends; and, upon a thorough Reflection, I thought it entirely consistent with my Design of both Diverting and, Instructing the Publick; so that I have made a small Alteration in my Method; and least I should tire the Patience of my Reader, I have omited, for the most Part, in my two last Volumes, all Dress which might seem superfluous, and kept more entire to Informations; which I am persuaded cannot be dislik'd, but on the contrary approv'd, since it lessens the Price of the Performance, as well as contracts it.

I do not pretend to accuse any Persons of borrowing from other Writers, or presume to say that my Book is free from any Thing of that Nature, as does the Reverend Mr. *Laurence*; I am not ashamed to confess that I have taken several valuable Hints

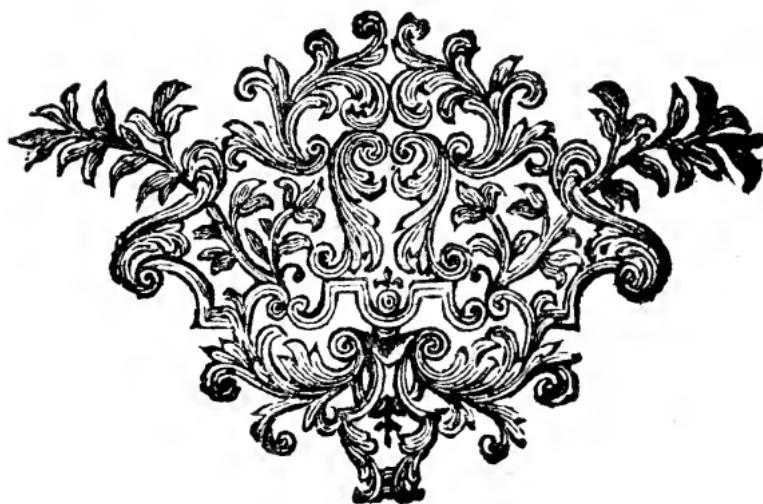
and Informations from the best Authors extant, (as I have already particularly observ'd in the Preface to my 2d Volume) being very sensible that my Book would have been very deficient and incompleat without them: But I hope the World will do me the Justice to own, that there is no Particular I have taken from the Writings of any other, but what appears here with Additions and Improvements.

It has been my great Ambition and Desire to entertain the Nobility, Quality, and Gentlemen of Estates, with the best Description I were capable of in my Profession, at the same Time having a due Regard to the most minute Information necessary to be communicated to the practical Gardener. This I could not have done without the Measures I have taken; and if I have the good Fortune not to fail in the former, I think I am pretty sure of pleasing the latter.

To conclude, I hope I shall not be too severely dealt with by the Generality of Mankind, when I have taken such elaborate Pains to divert them: And as I began with Poetry, and in the Summer Season all Gentlemen are fond of Retirement into the Country, I don't doubt but they'll readily join with me in these Lines of the celebrated Mr. Addison;

*Bear me, some God, to Baia's gentle Seats,
Or cover me in Umbria's green Retreats ;
Where ev'n rough Rocks with tender Myrtle
bloom,
And trodden Weeds send out a rich Perfume ;
Where Western Gales eternally reside,
And all the Seasons lavish all their Pride :
Blossoms, and Fruits, and Flow'rs, together rise,
And the whole Year in gay Confusion lies.*

F I N I S.





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